Capturing gender disparities: some stylized facts and suggestions from Europe

Third UNDP Conference on Measuring Human Progress

Session 2: „Capturing gender disparities“

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Indicators capturing gender disparities

Aim of indicators

- Greater attention and awareness of gender issues in human development
- Boost political action

Requirements

- Indicators should be simple to communicate, transparent, suitable for cross-country and cross-time comparison, ...
Some suggestions drawn from stylized facts from Europe

1. Inequality does not necessarily imply a welfare loss
   - Selection as a major challenge on the labor market
   - Well-being: income ≠ consumption
   - But: women’s relative earnings are crucial for female empowerment

2. Adopting the life course perspective adds valuable information
   - ‘Shadow price of children’: lifetime earnings matter
   - Women’s personal resources impact on their intra-household bargaining power

3. Some (components of) indicators are of region-specific importance
   - Different factors drive well-being and empowerment of women in different regions of the world
INEQUALITY = WELFARE LOSS?
ADDRESSING THE LABOR MARKET
Gender gaps: Reflecting institutional impediments or gendered preferences?

Gap in employment rates of women and men aged 25 to 54, by age of youngest child, 2012

Note: child has to be in full social and economic dependence from other household member/-s (parents/ adults).
Sources: Eurostat (2014); HWWI.
Inactive population aged 25 to 64 by sex and main reason why no job search, 2011

Sources: Eurostat (2012); HWWI.

Looking after children or incapacitated adults
Other family or personal responsibilities

0 10 20 30 40 50 60
%
Impediments to full-time work of mothers, particularly with small children

Formal childcare by children’s age and weekly hours as share over the population of each age group in 2011

%  

Sources: Eurostat (2013); HWWI.

Notes: A: <3 years; B: 3 years - compulsory school age; C: compulsory school age - 12 years.
Welfare implications are more easily drawn from reported preferences.

In terms of working hours, the female labor force is more likely to be rationed.

Involuntarily part-time employed aged 15 to 74 as a percentage of labour force, 2011

Sources: Eurostat (2012); HWWI.
Women’s relative earnings: relevant for women’s empowerment

4 driving factors: Occupational segregation, low representation in leadership, restricted working hours, interrupted careers

Gender pay gap in unadjusted form, 2012

Note: France: Figure refers to 2011
Sources: Eurostat (2014); HWWI.
ADOPTING THE LIFE COURSE PERSPECTIVE ADDS VALUABLE INFORMATION
“Having children is a lifelong undertaking.”

Siv Gustafsson, Swedish economist, 2003
Loss in gross wages (€) referring to a 6-years withdrawal from full-time employment up to age 45, by education and age at first birth.
## Accumulated loss in gross earnings from age 30 to 45*, by withdrawal pattern (years OLF/part-time)

- medium educated West German woman, birth of first child at age 30 -

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Earnings loss during OLF time (€)</th>
<th>Earnings loss during part-time (€)</th>
<th>Earnings loss after reentry in full-time (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 years (0/3)</td>
<td>49,443.96</td>
<td>33,381.93</td>
<td>0,00</td>
</tr>
<tr>
<td>6 years (3/3)</td>
<td>72,806.90</td>
<td>40,681.67</td>
<td>26,115.09</td>
</tr>
<tr>
<td>3 years (1/2)</td>
<td>76,926.56</td>
<td>27,901.42</td>
<td>26,115.09</td>
</tr>
<tr>
<td>6 years (1/5)</td>
<td>66,688.48</td>
<td>60,268.43</td>
<td>26,115.09</td>
</tr>
</tbody>
</table>

*Difference in total earnings compared to a continuously full-time employed woman of same education and age.

Sources: Own calculations based on German Socio-Economic Panel (SOEP) 1984-2005, see Boll (2009; 2011)

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Sources:
- Boll, Christina (2011): Lohneinbußen von Frauen durch geburtsbedingte Erwerbsunterbrechungen. Der Schattenpreis von Kindern und dessen mögliche Auswirkungen auf weibliche Spezialisierungsentscheidungen im Haushaltszusammenhang, Eine quantitative Analyse auf Basis von SOEP-Daten, Monografische Dissertationsschrift, Reihe "Sozialökonomische Schriften“ (Hrsg.: Prof. Dr. B. Rürup und Prof. Dr. W. Sesselmeier), Verlag Peter Lang, Frankfurt am Main et al.
Factors governing intra-household bargaining position of partners

- **Fertility decisions**
  - Gender does not matter *per se*
  - Personal resources
    - education
      Germany: Bauer/Jacob 2010, Italy: Rosina/Testa 2009
    - earnings
      Hener 2010
  - Demand/supply ratio on the marriage market
    Bauer/Kneip 2013
  - To whom child related public transfer payments are assigned
    Hener 2010
  - Public grants to single parents
    Greenwood et al. 2003, McElroy 1990

- **Likewise**: Personal and assigned public resources govern *decisions upon within-household work division and income distribution*

- Employment decisions impact on the bargaining position of partners over the life cycle
- Anticipation of asymmetric specialization risks in t+1 prevents women from specialization in t
  Iyigun/Walsh 2007, Steurer 2008, Boll 2011

Source: Beblo, Miriam, Christina Boll (2013): Couples – uniform groups with common interests? (Review of international empirical evidence, at present in German language only)

Research financially supported by:
Intra-household work division: Gender gap in unpaid work

**Gender gap in household tasks at the turn of the millennium**
- dual earner couples, both partners full-time employed, youngest child in hh <5 years old -

[Bar chart showing the gender gap in household tasks across countries.]

**Gender gap in childcare time at the turn of the millennium**
- dual earner couples, both partners full-time employed, youngest child in hh <5 years old -

[Bar chart showing the gender gap in childcare time across countries.]

Own multivariate analyses show:
Fathers’ childcare time is positively associated to **father friendly parental leave schemes** (high wage replacement rates, exclusive father weeks).


Research financially supported by
COMPONENTS OF INDICATORS SHOULD VARY BY REGION
Educational attainment in the Baltic Sea Region: Women outperform men...

Early leavers from education and training by gender, 2013

Sources: Eurostat (2014); HWWI.

Women per 100 men graduating from ISCED levels 5-6 in 2011

Source:
Biermann, Ulrike, Christina Boll, Nora Reich, Silvia Stiller (2013): Economic Perspectives, Qualification and Labour Market Integration of Women in the Baltic Sea Region, Baltic Sea Academy - Max Hogeforster (Hrsg.), Norderstedt, Germany.
...but **women** are more prone to **overeducation**: Employment biography matters

| + | (-) Increasing (decreasing) the risk of overeducation (across models and educational levels) |
| West Germans > East Germans, except UE experience |

| + | unemployment experience |
| + | Out of labour force (OLF) experience |
| + | weekly working hours 16-25 |
| + | marginal employment (weekly working hours <16) |
| + | Re-entry into employment |
| - | Employment experience |

**Sources:**
- Boll, Christina, Julian S. Leppin (forthcoming): From quantitative to qualitative aspects of work: Overeducation and Earnings in Germany, Baltic Sea Academy Series.

Research financially supported by:
Prevalence of overeducation among the medium educated

Men, medium education, West Germany

Women, medium education, West Germany

Self-assessed overeducation West & East: Declining trend, but more frequent among women during the last decade.

Men, medium education, East Germany

Women, medium education, East Germany

RM overeducation: Increasing trend among women, women recently approaching (East) and outperforming men's level (West), respectively.
Prevalence of overeducation among the highly educated

**Men, high education, West Germany**

Sources: SOEP v28, 1992-2011, HWWI.

**Men, high education, East Germany**

Sources: SOEP v28, 1992-2011, HWWI.

**Women, high education, West Germany**

RM overeducation: Women outperformed (West) and almost reached (East) men’s level, respectively.

Sources: SOEP v28, 1992-2011, HWWI.

**Women, high education, East Germany**

Self-assessed overeducation W&E: Women outperform men.

Sources: SOEP v28, 1992-2011, HWWI.
## Earnings effects of overeducation: Returns to attained education

### How to read these figures?

**Example (West German women):**

One year of required education yields a wage premium of 9.90%, whereas one year of excess education yields only 2.62%.

- **Overeducation entails severe wage losses!** (≠ human capital theory)
- **But, on the other hand, returns are above zero!** (≠ assignment theory)

### Table

<table>
<thead>
<tr>
<th></th>
<th>Ordinary Least Squares Model</th>
<th>Random Effects Model with Mundlak Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model Category</strong></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>West German Female Graduates</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RE</td>
<td>9.90</td>
<td>9.64</td>
</tr>
<tr>
<td>OE</td>
<td>2.62</td>
<td>5.38</td>
</tr>
<tr>
<td>UE</td>
<td>-6.40</td>
<td>-6.76</td>
</tr>
<tr>
<td>R² (%)</td>
<td>44.27</td>
<td>33.75</td>
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<tr>
<td><strong>West German Male Graduates</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RE</td>
<td>10.04</td>
<td>6.89</td>
</tr>
<tr>
<td>OE</td>
<td>3.46</td>
<td>4.60</td>
</tr>
<tr>
<td>UE</td>
<td>n.s.</td>
<td>-3.18</td>
</tr>
<tr>
<td>R² (%)</td>
<td>37.32</td>
<td>32.49</td>
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<tr>
<td><strong>East German Female Graduates</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RE</td>
<td>9.50</td>
<td>7.07</td>
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<tr>
<td>OE</td>
<td>3.23</td>
<td>3.90</td>
</tr>
<tr>
<td>UE</td>
<td>n.s.</td>
<td>-5.33</td>
</tr>
<tr>
<td>R² (%)</td>
<td>39.12</td>
<td>41.44</td>
</tr>
<tr>
<td><strong>East German Male Graduates</strong></td>
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<td></td>
</tr>
<tr>
<td>RE</td>
<td>9.85</td>
<td>5.32</td>
</tr>
<tr>
<td>OE</td>
<td>n.s.</td>
<td>3.12</td>
</tr>
<tr>
<td>UE</td>
<td>n.s.</td>
<td>-4.06</td>
</tr>
<tr>
<td>R² (%)</td>
<td>53.34</td>
<td>31.2</td>
</tr>
</tbody>
</table>
Suggestions referring to universal and region-specific components

- All components refer to women and have to be converted into figures relative to men (if applying to both genders)
- **bold**: empowerment
- **italic**: well-being

⚠️ universal components
⚠️ region-specific supplements for both genders
⚠️ region-specific supplements applying to women only

- Parliamentary representation
- Representation in economic leadership
- Earnings
- Life expectancy
- Education
- Leisure time
- LFP rate
- Bodily integrity
- Reproductive health
- Unwanted births
- Job match quality (Overeducation, job satisfaction)
Thank you very much for your attention.

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Publications for download:

Benefits of fathers’ childcare time

- children’s well-being
  Bonke and Greve 2012; Carlson and McLanahan 2004; Palkovitz 2002

- gain in social competences and work-life balance for fathers
  Hook 2006

- higher fertility
  Buber 2003; de Laat and Sevilla-Sanz 2011; Duvander and Andersson 2006; Lappegård 2010; Oláh 2003

- increased marital stability and satisfaction
  Greenstein 1995; McHale and Crouter 1992; Oláh 2001; Sanchez and Gager 2000; Sigle-Rushton 2010; Wengler et al. 2008

- Higher female employment rates and earnings
  Boll 2011; Light and Ureta 1995; Mincer and Polachek 1974
Childcare time of fathers 1971-2005 in 8 countries

Fathers' average minutes of childcare on the survey day

Sources: MTUS (Gershuny and Fisher 2010); own calculations and illustration.

Women’s representation in leading positions

Women in leading positions* in Europe’s biggest listed enterprises, 2013 (percentages)

*referring to boards of directors (monistic corporate governance systems) and supervisory boards (dualistic systems), respectively

Part-time is a specialty of women’s employment in Western Europe

Percentage of part-time employed aged 15 to 64 by sex in 2012

Note: For Germany and Poland, figures refer to 2011 since 2012 is not available.
Sources: Eurostat (2014); HWWI.
Life-long learning varies across Baltic Sea Region countries

Share of adult population aged 25 to 64 participating in education and training, 2012

Sources: Eurostat (2014); HWWI.
Gender pay gaps translate into (even more wide) pension gaps

Figure 1.5. Gender Gap in Pensions vis-à-vis Gender Pay Gap (in unadjusted form)

Source: OECD (ed.): Pensions at a Glance 2013. OECD and G20 Indicators
Causal factors of overeducation: Models

- **Data: SOEP 1992-2011** (94,674 observations)
  - Persons aged 20-55, persons in education, retirement, civil or military service as well as self-employed persons are excluded

- **Probit model** for probability of entering overeducation status according to one of the definitions

- **Dynamic mixed multinomial logit model** for probability of current overeducation according to one of the definitions
  - Model accounts for (cross) state dependence and unobserved heterogeneity
  - Initial condition (caused by dynamic structure): solution from Wooldridge (2005)
  - Heterogeneity: \( \alpha_{i,j} = IC_i \omega_j + Z_i \delta_j + \nu_{i,j} \)
    - \( IC_i = \) initial condition, \( Z_i = \) individual means (Mundlak correction), \( \nu_{i,j} = \) overeducation state-specific correlated random effects
  - Estimated by Maximum Simulated Likelihood