Deregulating Job Placement in Europe: A Microeconometric Evaluation of an Innovative Voucher Scheme in Germany

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Outline

1. Introduction
2. Institutional setting of the job placement voucher
3. Data and sample selection
4. Identification and estimation methods
5. Empirical results
6. Conclusions
1. Introduction

The market of job placement in Germany

• Possible market failure: information asymmetries, externalities

• Up to 1994: public monopoly (Federal Employment Office, FEO)

• Effectiveness of the FEO is more and more questioned

• Since 1994: progressive liberalization

• Private Placement Agencies focus on highly qualified

• Since April 2002: job placement vouchers (JPV)
2. Institutional setting

Institutional setting of the job placement voucher

- Employment Agency
  - 1. Issue of the JPV
  - 2. Placement contract
  - 5. Redemption of JPV

- Private Placement Agency
  - 4. Employment contract
  - 3. Placement

- Unemployed

- Employer

→ eligibility rules

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3. Data and sample selection

Data base
Administrative data of the Federal Employment Office
• data on issue and redemption of the vouchers
• job seeker’s data base (BewA): spell data for all the unemployed registered with a PEO, socio-economic characteristics, qualification, recent labor market history and regional context
• integrated employment biographies (IEB): BewA + data on regular employment (BeH), on unemployment benefits (LeH) and on participation in labor market programs
3. Data and sample selection

Sample selection

- Driven by data availability:
  - BewA available from Mai 2003 onwards
  - outcome variable (employment) available until Dec. 2003
  - a time span of 6 months after issue of voucher seems necessary
    → vouchers issued in Mai and June 2003 are evaluated
- only unemployed who are entitled

<table>
<thead>
<tr>
<th></th>
<th>East Germany</th>
<th>West Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>29,785</td>
<td>3,783</td>
</tr>
<tr>
<td>Non-participants</td>
<td>757,598</td>
<td>96,220</td>
</tr>
<tr>
<td>Total</td>
<td>787,383</td>
<td>1,440,354</td>
</tr>
</tbody>
</table>

Evaluation problem

• We want to know the treatment effect $\Delta = Y_1 - Y_0$
• Problem: can never observe $Y_1, Y_0$ for same person at same time
• $Y_1$ from participants ($D=1$), $Y_0$ from non-participants?
  → problem: selection is not random, caseworkers choose to offer voucher, unemployed choose to ask for it / accept it; if criteria decisions are based on are correlated with outcome, we have selection bias

• CIA: $Y_0 \perp D\mid X$
  → counterfactual can be estimated consistently from non-participants by matching (if common support is given)
4. Identification and estimation methods

Discussion of CIA

• Insight from implementation analysis:
  - self selection: unemployed who are better informed
  - administrative selection: better risks to reduce workload

• Information in the X’s
  - socio-economic: gender, age, marital status, number of children, health status etc.
  - qualification: school, professional, assessment of case worker
  - labor market history: five years, daily information, E - UE - ALMP
  - type of employment searched for: industry, working time
  - regional context: UE rate, vacancy rate, short time work rate etc.

→ We argue the CIA holds.
4. Identification and estimation methods

**Outcome and time-varying characteristics**

- **Outcome**: employment in six months after issue of voucher
- **Problem**: what is the reference date for non-participants?
- **Method of Lechner (1999):**
  - draw starting dates for non-participants at random from the distribution of starting dates of participants
  - if hypothetical starting date does not fit with the institutional frame (individual has to be entitled to get a voucher), the spell is deleted
5. Empirical results

Common Support

Figure 2: Common support for West Germany
5. Empirical results

Quality of Matching: Balancing Tests

- Standardized differences are smaller than 2 for each covariate after matching
- Two-sample-T-test on differences in means is insignificant for each covariate

<table>
<thead>
<tr>
<th></th>
<th>before rating</th>
<th>after rating</th>
<th>before rating</th>
<th>after rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dummy (female)</td>
<td>21.77</td>
<td>1.14</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Propensity score</td>
<td>736.60</td>
<td>0.00</td>
<td>0.00</td>
<td>0.10</td>
</tr>
<tr>
<td>Duration of unemployment (hypothetical starting date)</td>
<td>37.40</td>
<td>0.80</td>
<td>0.00</td>
<td>0.08</td>
</tr>
<tr>
<td>Age</td>
<td>287.70</td>
<td>0.55</td>
<td>0.00</td>
<td>0.05</td>
</tr>
<tr>
<td>Foreign</td>
<td>21.70</td>
<td>0.03</td>
<td>0.00</td>
<td>0.06</td>
</tr>
<tr>
<td>Female</td>
<td>21.70</td>
<td>1.14</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>
5. Empirical results

Average Effect of Treatment on the treated (East)

<table>
<thead>
<tr>
<th>Month after issued voucher</th>
<th>Share in regular employment (participants)</th>
<th>Matched control group</th>
<th>Difference</th>
<th>Std error</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>80%</td>
<td>47%</td>
<td>33%</td>
<td>21%</td>
</tr>
<tr>
<td>2</td>
<td>123%</td>
<td>81%</td>
<td>42%</td>
<td>26%</td>
</tr>
<tr>
<td>3</td>
<td>150%</td>
<td>102%</td>
<td>48%</td>
<td>29%</td>
</tr>
<tr>
<td>4</td>
<td>166%</td>
<td>117%</td>
<td>49%</td>
<td>30%</td>
</tr>
<tr>
<td>5</td>
<td>173%</td>
<td>125%</td>
<td>48%</td>
<td>31%</td>
</tr>
<tr>
<td>6</td>
<td>171%</td>
<td>123%</td>
<td>48%</td>
<td>31%</td>
</tr>
</tbody>
</table>

Estimated Average Treatment Effect on the treated in East Germany (regular employment after treatment), for participants: Share of issued vouchers which is redeemed.
5. Empirical results

Average Effect of Treatment on the treated (West)

<table>
<thead>
<tr>
<th>Months after issue of voucher</th>
<th>Participants share of issued vouchers which is redeemed</th>
<th>Months after voucher issue</th>
<th>Participants share of issued vouchers which is redeemed</th>
<th>Difference</th>
<th>Standard error</th>
<th>Participants share of issued vouchers which is redeemed</th>
<th>Post-treatment regular employment for participants</th>
<th>Matched control group difference</th>
<th>Standard error</th>
<th>Matched control group share of issued vouchers which is redeemed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>652%</td>
<td>478%</td>
<td>174%</td>
<td>0.19%</td>
<td>3.37%</td>
<td>652%</td>
<td>174%</td>
<td>0.19%</td>
<td>3.37%</td>
<td>652%</td>
</tr>
<tr>
<td>2</td>
<td>11,18%</td>
<td>8,19%</td>
<td>299%</td>
<td>0.28%</td>
<td>4.85%</td>
<td>11,18%</td>
<td>299%</td>
<td>0.28%</td>
<td>4.85%</td>
<td>11,18%</td>
</tr>
<tr>
<td>3</td>
<td>14,28%</td>
<td>10,72%</td>
<td>356%</td>
<td>0.28%</td>
<td>5.77%</td>
<td>14,28%</td>
<td>356%</td>
<td>0.28%</td>
<td>5.77%</td>
<td>14,28%</td>
</tr>
<tr>
<td>4</td>
<td>16,10%</td>
<td>12,39%</td>
<td>360%</td>
<td>0.29%</td>
<td>6.08%</td>
<td>16,10%</td>
<td>360%</td>
<td>0.29%</td>
<td>6.08%</td>
<td>16,10%</td>
</tr>
<tr>
<td>5</td>
<td>17,17%</td>
<td>13,58%</td>
<td>359%</td>
<td>0.30%</td>
<td>6.51%</td>
<td>17,17%</td>
<td>359%</td>
<td>0.30%</td>
<td>6.51%</td>
<td>17,17%</td>
</tr>
<tr>
<td>6</td>
<td>17,66%</td>
<td>13,94%</td>
<td>372%</td>
<td>0.30%</td>
<td>6.75%</td>
<td>17,66%</td>
<td>372%</td>
<td>0.30%</td>
<td>6.75%</td>
<td>17,66%</td>
</tr>
</tbody>
</table>
5. Empirical results

Average Effect of Treatment on the treated by type of voucher (East)

<table>
<thead>
<tr>
<th>Share in regular employment</th>
<th>for participants: share of issued vouchers which is redeemed</th>
</tr>
</thead>
</table>

**voucher of 1.500 € (9,416)**

<table>
<thead>
<tr>
<th>months after issue of voucher</th>
<th>participants</th>
<th>matched control group</th>
<th>difference</th>
<th>std. error</th>
<th>difference and std. error</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>26.13%</td>
<td>19.03%</td>
<td>7.09%</td>
<td>0.65%</td>
<td>14.76%</td>
</tr>
<tr>
<td>5</td>
<td>27.20%</td>
<td>20.40%</td>
<td>6.80%</td>
<td>0.66%</td>
<td>15.57%</td>
</tr>
<tr>
<td>6</td>
<td>26.85%</td>
<td>20.33%</td>
<td>6.52%</td>
<td>0.66%</td>
<td>16.00%</td>
</tr>
</tbody>
</table>

**voucher of 2.000 € (5,460)**

<table>
<thead>
<tr>
<th>months after issue of voucher</th>
<th>participants</th>
<th>matched control group</th>
<th>difference</th>
<th>std. error</th>
<th>difference and std. error</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>19.65%</td>
<td>14.43%</td>
<td>5.22%</td>
<td>0.83%</td>
<td>13.39%</td>
</tr>
<tr>
<td>5</td>
<td>20.44%</td>
<td>14.80%</td>
<td>5.64%</td>
<td>0.84%</td>
<td>13.96%</td>
</tr>
<tr>
<td>6</td>
<td>19.36%</td>
<td>14.08%</td>
<td>5.27%</td>
<td>0.83%</td>
<td>14.30%</td>
</tr>
</tbody>
</table>

**voucher of 2.500 € (14,909)**

<table>
<thead>
<tr>
<th>months after issue of voucher</th>
<th>participants</th>
<th>matched control group</th>
<th>difference</th>
<th>std. error</th>
<th>difference and std. error</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>9.63%</td>
<td>5.92%</td>
<td>3.71%</td>
<td>0.32%</td>
<td>8.26%</td>
</tr>
<tr>
<td>5</td>
<td>10.05%</td>
<td>6.53%</td>
<td>3.53%</td>
<td>0.33%</td>
<td>8.74%</td>
</tr>
<tr>
<td>6</td>
<td>10.26%</td>
<td>6.65%</td>
<td>3.61%</td>
<td>0.34%</td>
<td>9.11%</td>
</tr>
</tbody>
</table>
5. Conclusions

Conclusions

- estimated average treatment effects:
  East: 4.8 percentage points
  West: 3.7 percentage points

- effects are higher for vouchers with lower values

  → Higher cost for the placement of a person with longer unemployment is more important than the higher bonus

- market-oriented instrument seems to be better suited for short-term unemployed, critical for long-term unemployed