Unemployment Insurance, Reservation Wages and Reemployment Outcomes

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This presentation

Mix of two papers, same research agenda, same team

1. "Unemployment Insurance and Reservation Wages: Evidence from Administrative Data", accepted at *Journal of Public Economics*

2. Unemployment Insurance, Reemployment Outcomes and Duration Dependence
Broad context

- Robust finding in the literature: more generous UI leads to longer unemployment duration

- Debate: does UI subsidize leisure or search? Does it delay job acceptance or does it allow job seekers to find better matches?
  - Estimates of effect of UI on reemployment outcomes are mixed

- Tricky because the effect of UI on reemployment outcomes is the sum of two opposite forces (Nekoei & Weber, 2017):
  1. More UI $\Rightarrow$ longer non-employment duration $\Rightarrow$ lower job prospects (duration dependence)
  2. More UI $\Rightarrow$ higher reservation wages (bc. higher value of unemployment) $\Rightarrow$ better outcomes

- This can explain the diversity of estimates

- But what explains which forces dominate?
1. More UI $\rightarrow$ longer non-employment duration $\rightarrow$ lower job prospects (duration dependence)
2. More UI $\rightarrow$ higher reservation wages (bc. higher value of unemployment) $\rightarrow$ better outcomes

What do we know about these two forces?

- Elasticity of non-employment duration w.r.t Potential Benefits
  Duration is 0.1 across studies
- Duration dependence is hard to disentangle from dynamic selection. Some evidence from audit studies (e.g. Kroft et al., 2013), with some debate (Jarosch et Pilossoph, 2017)
- Very rare direct empirical evidence on reservation wages
  - Feldstein and Poterba (1984), Krueger and Mueller (2016) lack exogenous variation in UI
  - Arni (2017)
Our papers

- First paper: effect of UI on reservation wages at the beginning of the spell, i.e. holding constant the job offer distribution

- Second paper, very much work in progress: we now have also access to reemployment outcomes data and we try to understand the relevant heterogeneity / mechanisms that determine the magnitude and sign of the effect of UI on match quality
First paper in a nutshell

- **Motivation:** scarce empirical evidence on reservation wages despite its central role in job search theory

- **Contribution:** quasi-experimental estimates of the effect of UI on reservation wages
  
  - We use rich administrative data on reservation wages and other dimensions of job selectivity, collected by the French Public Employment Service when job seekers register
  
- **Take-away:** job selectivity reacts much less to UI than predicted by standard theory
  
  - We can rule out elasticities of reservation wages with respect to the Potential Benefits Duration (PBD) of 0.006
  
  - No effect either on other dimensions of the job people are looking for
Second paper, as of today

- Using the identification strategy of the first paper
- We look at effect of UI on non-employment duration and reemployment outcomes
- For different subgroups
Outline

Identification strategy and data

Effect of PBD on job selectivity (first paper)

Effect of PBD on reemployment outcomes (work in progress)

Conclusion
Identification strategy and data

Effect of PBD on job selectivity (first paper)

Effect of PBD on reemployment outcomes (work in progress)

Conclusion
2009 reform in France: simplification of UI rules

Potential benefit duration schedule

Number of days worked in the previous 26 months

Before 2009

After 2009
Data

- French Public Employment Service (Pôle Emploi) registers
  - Administrative data on reservation wages and other dimensions of the job people are looking for, as well as standard UI information, for the universe of UI claimants

- Matched employer-employee registers (DADS)

- For a 10% sample, these two data sources are matched
  - This allows us to look at reemployment outcomes
Sample selection

- Inflow of new UI claims associated with a contract that ended between April 1st, 2006 and March 31st, 2012
  - The reform applies to all claims associated with a contract that ended on or after April 1st, 2009

- Job seekers less than 50 years old at end of previous contract
Website of the Public Employment Service at registration

- "What gross minimum wage do you ask for?"
Distribution of reservation wages over previous wage

86% of job-seekers accept a wage-cut
Median of reservation wage over past wage: 0.83
## Socio-demographic determinants of reservation wages

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1) Log ResW</th>
<th>(2) ResW/PastW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dummies for 20 equal sized bins of past wage</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Female</td>
<td>-0.0455***</td>
<td>-0.0431***</td>
</tr>
<tr>
<td></td>
<td>(0.00157)</td>
<td>(0.00152)</td>
</tr>
<tr>
<td>Married × female</td>
<td>-0.0131***</td>
<td>-0.0109***</td>
</tr>
<tr>
<td></td>
<td>(0.00202)</td>
<td>(0.00189)</td>
</tr>
<tr>
<td>Married × male</td>
<td>0.0273***</td>
<td>0.0226***</td>
</tr>
<tr>
<td></td>
<td>(0.00284)</td>
<td>(0.00272)</td>
</tr>
<tr>
<td>Age</td>
<td>0.00327***</td>
<td>0.00288***</td>
</tr>
<tr>
<td></td>
<td>(0.000106)</td>
<td>(0.000102)</td>
</tr>
<tr>
<td>Experience</td>
<td>0.00619***</td>
<td>0.00531***</td>
</tr>
<tr>
<td></td>
<td>(0.000201)</td>
<td>(0.000194)</td>
</tr>
<tr>
<td>Education</td>
<td>0.0188***</td>
<td>0.0171***</td>
</tr>
<tr>
<td></td>
<td>(0.000292)</td>
<td>(0.000298)</td>
</tr>
<tr>
<td>Observations</td>
<td>56,861</td>
<td>56,861</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.505</td>
<td>0.376</td>
</tr>
</tbody>
</table>
Other dimensions of job selectivity

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Looking for a long-term contract (CDI)</td>
<td>0.91</td>
<td>0.29</td>
</tr>
<tr>
<td>Looking for a full-time job</td>
<td>0.91</td>
<td>0.28</td>
</tr>
<tr>
<td>Maximum commute time accepted (in minutes)</td>
<td>43.58</td>
<td>19.53</td>
</tr>
<tr>
<td>Maximum commute distance accepted (in kms)</td>
<td>29.80</td>
<td>23.92</td>
</tr>
<tr>
<td>No geographical constraint</td>
<td>0.02</td>
<td>0.12</td>
</tr>
</tbody>
</table>
## Reemployment outcomes

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-employment duration (in days)</td>
<td>302.70</td>
<td>298.59</td>
</tr>
<tr>
<td>Monthly FTE wage (in euros)</td>
<td>1837.92</td>
<td>559.19</td>
</tr>
<tr>
<td>Duration of job (in days)</td>
<td>365.19</td>
<td>401.61</td>
</tr>
<tr>
<td>Long-term contract (CDI)</td>
<td>0.30</td>
<td>0.46</td>
</tr>
<tr>
<td>Full-time job</td>
<td>0.67</td>
<td>0.47</td>
</tr>
<tr>
<td>Distance to job (median, in kms)</td>
<td>9.09</td>
<td>113.06</td>
</tr>
<tr>
<td>Occupation mobility</td>
<td>0.571</td>
<td>0.495</td>
</tr>
</tbody>
</table>
Distribution of reemployment wages over reservation wages

78% of job seekers have a reemployment wage above their reservation wage
Reservation wages explains reemployment outcomes

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Log reemp. wage</th>
<th>Log job duration</th>
<th>Long-term contract (CDI)</th>
<th>Full-time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log ResW</td>
<td>0.390***</td>
<td>0.288***</td>
<td>0.275***</td>
<td>0.109***</td>
</tr>
<tr>
<td></td>
<td>(0.00749)</td>
<td>(0.0288)</td>
<td>(0.0128)</td>
<td>(0.0117)</td>
</tr>
<tr>
<td>Looking for CDI</td>
<td>-0.0239***</td>
<td>0.0738***</td>
<td>0.0791***</td>
<td>-0.0334***</td>
</tr>
<tr>
<td></td>
<td>(0.00327)</td>
<td>(0.0152)</td>
<td>(0.00611)</td>
<td>(0.00673)</td>
</tr>
<tr>
<td>Looking for Full-time</td>
<td>0.00374</td>
<td>-0.0774***</td>
<td>-0.0614***</td>
<td>0.172***</td>
</tr>
<tr>
<td></td>
<td>(0.00366)</td>
<td>(0.0186)</td>
<td>(0.00813)</td>
<td>(0.00849)</td>
</tr>
<tr>
<td>Observations</td>
<td>53,774</td>
<td>53,774</td>
<td>52,700</td>
<td>53,774</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.354</td>
<td>0.061</td>
<td>0.087</td>
<td>0.115</td>
</tr>
</tbody>
</table>

- Includes controls for previous job characteristics (20 wage bins dummies, duration, contract, full-time etc), as well as characteristics of the individual, the UI claim and the Commuting Zone he lives in.

More
Identification strategy and data

Effect of PBD on job selectivity (first paper)

Effect of PBD on reemployment outcomes (work in progress)

Conclusion
The reform

Potential benefit duration schedule

Number of days worked in the previous 26 months

Before 2009
After 2009
First stage

\[ PBD_{i,n} = \sum_{j=6}^{26} \beta_j D(Tenure_{i,n} = j) \times After_{i,n} + \sum_{j=6}^{26} \delta_j D(Tenure_{i,n} = j) + \nu_{i,n} \]
Econometric model

\[
\log Y_{i,n} = \alpha \log PBD_{i,n} + \sum_{j=6}^{26} \delta_j D(Tenure_{i,n} = j) \\
+ \gamma X_{i,n} + Indiv.F.E.i + Year \times QuarterF.E. + \epsilon_{i,n}
\]

- We instrument \( \log(PBD) \) by \( \sum_{j=6}^{26} D(Tenure_{i,n} = j) \times After_{i,n} \)

- \( D(Tenure_{i,n} = j) \) indicates whether the past tenure of individual \( i \) before her \( n \)-th claim is \( j \) months
### Elasticity of reservation wages w.r.t. PBD

<table>
<thead>
<tr>
<th></th>
<th>OLS</th>
<th>IV</th>
<th>FE</th>
<th>FE,IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log of reservation wage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>log PBD</td>
<td>0.000954 (0.00854)</td>
<td>0.00473 (0.00691)</td>
<td>-0.000132 (0.00310)</td>
<td>-0.000535 (0.00318)</td>
</tr>
<tr>
<td>Obs.</td>
<td>180,637</td>
<td>180,637</td>
<td>180,637</td>
<td>180,637</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.474</td>
<td>0.474</td>
<td>0.340</td>
<td></td>
</tr>
<tr>
<td>Indiv. FE</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

Standard errors clustered by monthly tenure group in columns (1) and (2)
Hazard rates start to react in the first weeks

<table>
<thead>
<tr>
<th>weeks since U entry</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>log PBD</td>
<td>-0.008</td>
<td>-0.013**</td>
<td>-0.017**</td>
<td>-0.019**</td>
<td>-0.023***</td>
</tr>
<tr>
<td></td>
<td>(0.005)</td>
<td>(0.006)</td>
<td>(0.008)</td>
<td>(0.008)</td>
<td>(0.009)</td>
</tr>
<tr>
<td>Mean outcome</td>
<td>0.018</td>
<td>0.030</td>
<td>0.044</td>
<td>0.057</td>
<td>0.070</td>
</tr>
<tr>
<td>Indiv. FE</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Obs.</td>
<td>180,637</td>
<td>180,637</td>
<td>180,637</td>
<td>180,637</td>
<td>180,637</td>
</tr>
</tbody>
</table>
Effect of PBD on other dimensions of job selectivity

<table>
<thead>
<tr>
<th></th>
<th>Looking for a long-term contract (1)</th>
<th>Looking for a full-time job (2)</th>
<th>Max. commute time/distance (in log) (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>log PBD</strong></td>
<td>-0.00462 (0.00825)</td>
<td>0.000111 (0.00496)</td>
<td>-0.000931 (0.0132)</td>
</tr>
<tr>
<td><strong>Indiv. FE</strong></td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td><strong>IV</strong></td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td><strong>Obs.</strong></td>
<td>180,637</td>
<td>180,637</td>
<td>163,192</td>
</tr>
</tbody>
</table>
Validating the research design

To check the parallel trends assumption, we define 2 groups:

- **Change in PBD is more than 30 days (the median)***
  - Past tenure = 8-11 and 13-15 months

- **Change in PBD is less than 30 days***
  - Past tenure = 6-7, 12 and 16-26 months
Actual duration of benefits

Quarter of separation

Change in PBD after reform <= median (30 days)
Change in PBD after reform > median (30 days)
Reservation wages at the beginning of the job search spell do not respond to UI generosity, while hazard rates do

- Being entitled to 1 additional month of benefits for a claimant with an initial PBD of 10 months is associated with at most a 0.06 % increase in its reservation wage
- Other dimensions of the job searched for do not adjust either
- Results robust to alternative research design: discontinuity at age 50 in the PBD schedule

For some groups (e.g. low tenure people), significant positive elasticity of reservation wage but small: 0.01

Lack of responsiveness is at odds with standard job search theory
Identification strategy and data

Effect of PBD on job selectivity (first paper)

Effect of PBD on reemployment outcomes (work in progress)

Conclusion
log $Y_i = \alpha \log PBD_i + \sum_j \delta_j D(Tenure_i = j) + \gamma X_i + Year \times QuarterF.E. + \epsilon_i$

- We instrument $log(PBD)$ by $\sum_j D(Tenure_i = j) \times After_i$
- $D(Tenure_i = j)$ indicates whether the work tenure prior to unemployment spell $i$ is $j$ months
Replicating the results on job selectivity on our new sample

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1) Log ResW</th>
<th>(2) CDI</th>
<th>(3) Full-time</th>
<th>(4) Log distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>log PBD</td>
<td>0.00367</td>
<td>-0.00127</td>
<td>0.00959</td>
<td>-0.0266</td>
</tr>
<tr>
<td></td>
<td>(0.00647)</td>
<td>(0.0114)</td>
<td>(0.00995)</td>
<td>(0.0286)</td>
</tr>
<tr>
<td>Observations</td>
<td>53,774</td>
<td>53,774</td>
<td>53,774</td>
<td>48,758</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.549</td>
<td>0.021</td>
<td>0.072</td>
<td>0.102</td>
</tr>
<tr>
<td>controls</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

- We can rule out elasticities of the reservation wage of 0.016
Effect on reemployment outcomes

<table>
<thead>
<tr>
<th></th>
<th>(1) Log non-emp. duration</th>
<th>(2) Log reemp. wage</th>
<th>(3) Log duration of new job</th>
<th>(4) Long term contract</th>
<th>(5) Full-time</th>
</tr>
</thead>
<tbody>
<tr>
<td>log PBD</td>
<td>0.135** (0.0651)</td>
<td>0.0147 (0.00896)</td>
<td>0.0327 (0.0444)</td>
<td>-0.00743 (0.0182)</td>
<td>-0.00809 (0.0182)</td>
</tr>
<tr>
<td>Obs.</td>
<td>53,774</td>
<td>53,774</td>
<td>53,774</td>
<td>52,690</td>
<td>53,774</td>
</tr>
<tr>
<td>R-squ.</td>
<td>0.046</td>
<td>0.311</td>
<td>0.055</td>
<td>0.087</td>
<td>0.115</td>
</tr>
<tr>
<td>Controls</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

Notes: *p < 0.10, **p < 0.05.
Heterogeneity by previous wage

<table>
<thead>
<tr>
<th></th>
<th>(1) Log non-emp. duration</th>
<th>(2) Log reemp. wage</th>
<th>(3) Log duration of new job</th>
<th>(4) Long term contract</th>
<th>(5) Full-time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Previous wage above median</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>log PBD</td>
<td>0.283***</td>
<td>0.0006</td>
<td>0.0291</td>
<td>-0.0312</td>
<td>-0.0146</td>
</tr>
<tr>
<td></td>
<td>(0.0894)</td>
<td>(0.0135)</td>
<td>(0.0630)</td>
<td>(0.0257)</td>
<td>(0.0247)</td>
</tr>
<tr>
<td>Obs.</td>
<td>27,103</td>
<td>27,103</td>
<td>27,103</td>
<td>27,103</td>
<td>27,103</td>
</tr>
<tr>
<td>R-squ.</td>
<td>0.061</td>
<td>0.343</td>
<td>0.067</td>
<td>0.112</td>
<td>0.104</td>
</tr>
</tbody>
</table>

| **Previous wage below median** |                           |                     |                             |                        |              |
| log PBD              | -0.0002                   | 0.0258**            | 0.0255                      | 0.0162                 | -0.0022      |
|                      | (0.0945)                  | (0.0116)            | (0.0627)                    | (0.0259)               | (0.0269)     |
| Obs.                 | 26,661                    | 26,661              | 26,661                      | 26,661                 | 26,661       |
| R-squ.               | 0.052                     | 0.086               | 0.047                       | 0.064                  | 0.112        |

- We use the previous wage normalized by the relevant minimum wage; the median is 1.3
Heterogeneity by previous wage ct’ed

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1) Log ResW</th>
<th>(2) CDI</th>
<th>(3) Full-time</th>
<th>(4) Log distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous wage above median</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>log PBD</td>
<td>-0.0034</td>
<td>-0.0098</td>
<td>0.0170</td>
<td>-0.0251</td>
</tr>
<tr>
<td></td>
<td>(0.0103)</td>
<td>(0.0161)</td>
<td>(0.0124)</td>
<td>(0.0380)</td>
</tr>
<tr>
<td>Obs.</td>
<td>27,103</td>
<td>27,103</td>
<td>27,103</td>
<td>24,276</td>
</tr>
<tr>
<td>R-squ.</td>
<td>0.594</td>
<td>0.053</td>
<td>0.067</td>
<td></td>
</tr>
<tr>
<td>Previous wage below median</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>log PBD</td>
<td>0.0088</td>
<td>0.0123</td>
<td>0.0046</td>
<td>-0.0266</td>
</tr>
<tr>
<td></td>
<td>(0.0070)</td>
<td>(0.0159)</td>
<td>(0.0157)</td>
<td>(0.0422)</td>
</tr>
<tr>
<td>Obs.</td>
<td>26,661</td>
<td>26,661</td>
<td>26,661</td>
<td>24,474</td>
</tr>
<tr>
<td>R-squ.</td>
<td>0.268</td>
<td>0.024</td>
<td>0.079</td>
<td>0.09</td>
</tr>
</tbody>
</table>
Conclusion

- Reservation wages don’t react much to PBD
  - Potential explanation: reference dependence

- On average insignificant effect of PBD on reemployment outcomes but heterogeneity:
  - Low earnings group: significant 0.02 elasticity, while effect on non-employment duration is 0
  - High wage group: 0 effect on reemployment wages while strong 0.3 elasticity of non-employment duration
  - In line with Nekoei & Weber (2017)

- Next on the agenda: understanding what’s behind this heterogeneity

- Note that our preliminary results could be evidence in favor of less generous UI for higher earners, for efficiency reasons
APPENDIX
Figure 4 (Nekoei & Weber, 2017)
<table>
<thead>
<tr>
<th>Variable</th>
<th>First paper</th>
<th>Second paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0.599</td>
<td>0.480</td>
</tr>
<tr>
<td>Foreign born</td>
<td>0.111</td>
<td>0.108</td>
</tr>
<tr>
<td>Age</td>
<td>31.301</td>
<td>27.702</td>
</tr>
<tr>
<td>Married</td>
<td>0.353</td>
<td>0.278</td>
</tr>
<tr>
<td>Divorced</td>
<td>0.068</td>
<td>0.049</td>
</tr>
<tr>
<td>Has a child</td>
<td>0.363</td>
<td>0.260</td>
</tr>
<tr>
<td>Education (in years)</td>
<td>11.59</td>
<td>12.12</td>
</tr>
<tr>
<td>Occupational experience (in years)</td>
<td>4.628</td>
<td>3.399</td>
</tr>
<tr>
<td>Past Contract is long-term</td>
<td>0.353</td>
<td>0.223</td>
</tr>
<tr>
<td>Past tenure at last employer (in days)</td>
<td>393.648</td>
<td>245.449</td>
</tr>
<tr>
<td>Sum of past tenures over last 2 years</td>
<td>427.708</td>
<td>386.801</td>
</tr>
<tr>
<td>Potential Benefit Duration (in days)</td>
<td>413.156</td>
<td>390.788</td>
</tr>
<tr>
<td>Actual Benefit Duration (in days)</td>
<td>192.403</td>
<td>231.598</td>
</tr>
<tr>
<td>Past Monthly Wage (gross, in €)</td>
<td>1721.631</td>
<td>1906.162</td>
</tr>
<tr>
<td>Unemployment Benefits (in €)</td>
<td>1006.869</td>
<td>911.33</td>
</tr>
<tr>
<td>N. of observations</td>
<td>180,670</td>
<td>56,861</td>
</tr>
</tbody>
</table>
Incentives when answering the reservation wage question

- No incentive to underestimate:
  - Job seekers’ self-reported preferences are used by case workers to propose vacancies
  - Truthful declaration if browsing through vacancies is costly

- No incentive to overestimate:
  - When monitoring search effort, case workers compare posted wage of vacancies to job seekers’ previous wage, not to their reservation wage
Distribution of nominal monthly reservation wages (in €)

Note: Vertical line is minimum wage level in 2009.
Reservation wages explains unemployment duration

<table>
<thead>
<tr>
<th></th>
<th>Log UI duration</th>
<th>Log non-employment duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log ResW</td>
<td>-0.273***</td>
<td>-0.104***</td>
</tr>
<tr>
<td></td>
<td>(0.0210)</td>
<td>(0.0377)</td>
</tr>
<tr>
<td></td>
<td>0.466***</td>
<td>0.506</td>
</tr>
<tr>
<td></td>
<td>(0.232)</td>
<td>(0.435)</td>
</tr>
<tr>
<td>Indiv. FE</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Obs.</td>
<td>56,861</td>
<td>56,861</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.096</td>
<td>0.030</td>
</tr>
<tr>
<td></td>
<td>0.177</td>
<td>0.066</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable</td>
<td>Repeated claimants</td>
<td>All claimants</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>--------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Male</td>
<td>0.599</td>
<td>0.582</td>
</tr>
<tr>
<td>Foreign born</td>
<td>0.111</td>
<td>0.096</td>
</tr>
<tr>
<td>Age</td>
<td>31.301</td>
<td>32.008</td>
</tr>
<tr>
<td>Married</td>
<td>0.353</td>
<td>0.402</td>
</tr>
<tr>
<td>Divorced</td>
<td>0.068</td>
<td>0.076</td>
</tr>
<tr>
<td>Has a child</td>
<td>0.363</td>
<td>0.406</td>
</tr>
<tr>
<td>Education (in years)</td>
<td>11.59</td>
<td>11.79</td>
</tr>
<tr>
<td>Occupational experience (in years)</td>
<td>4.628</td>
<td>5.272</td>
</tr>
<tr>
<td>Past Contract is long-term</td>
<td>0.353</td>
<td>0.549</td>
</tr>
<tr>
<td>Past tenure at last employer (in days)</td>
<td>393.648</td>
<td>994.644</td>
</tr>
<tr>
<td>Sum of past tenures over last 2 years</td>
<td>427.708</td>
<td>590.319</td>
</tr>
<tr>
<td>Potential Benefit Duration (in days)</td>
<td>413.156</td>
<td>550.979</td>
</tr>
<tr>
<td>Actual Benefit Duration (in days)</td>
<td>192.403</td>
<td>233.036</td>
</tr>
<tr>
<td>Past Monthly Wage (gross, in €)</td>
<td>1721.631</td>
<td>1778.903</td>
</tr>
<tr>
<td>Unemployment Benefits (in €)</td>
<td>1006.869</td>
<td>1059.519</td>
</tr>
<tr>
<td>N. of observations</td>
<td>180,670</td>
<td>1,958,138</td>
</tr>
</tbody>
</table>
Changes in reservation wage rates across claims

![Graph showing the distribution of the log difference between 2 claims in the reservation wage rate]
Log changes in nominal reservation wage across claims

[Graph showing distribution of differences in log of reservation wages between two claims]

- Fraction
- Difference between 2 claims in the log of the reservation wage
Distribution of running variable

2006

2007

2008

2009

2010

2011

Past tenure over the last 2 years (in months)
Reduced form preview: no effect on reservation wages
While strong effect on actual duration of benefits
Reduced-form equation

\[
\log Y_{i,n} = \sum_{j=6, \text{excl. 7, 12, 23}}^{26} \beta_j D(Tenure_{i,n} = j) \times \text{After}_{i,n} \\
+ \sum_{j=6, \text{excl. 7, 12, 23}}^{26} \delta_j D(Tenure_{i,n} = j) \\
+ \gamma X_{i,n} + \text{Year} \times \text{QuarterF.E.} + \text{Indiv.F.E.}_i + \nu_{i,n}
\]

- For Tenure = 7, 12 or 23 months: PBD is almost the same under 2009 and under 2006 rules
Higher elasticity for job seekers with an average tenure below the median, i.e. \( \leq 13 \) months

<table>
<thead>
<tr>
<th></th>
<th>Low tenure</th>
<th>High tenure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log of Reservation wage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>log PBD</td>
<td>0.00964**</td>
<td>-0.00272</td>
</tr>
<tr>
<td></td>
<td>(0.00379)</td>
<td>(0.00557)</td>
</tr>
<tr>
<td>IObs.</td>
<td>90,364</td>
<td>90,273</td>
</tr>
<tr>
<td>Indiv. F.E.</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>
Age discontinuity in Potential Benefit Duration

Job seekers of age 50 or more are entitled to longer benefits

- Before the 2009 reform:
  - Same step schedule as younger job seekers (700, 365 or 213 days depending on previous work duration)
  - With one extra step: 1095 days if more than 27 months of work over the last 36 months;

- After the reform:
  - Same linear schedule as for younger job seekers
  - But up to 36 months (instead of 24)

==> On average PBD is 30% longer for senior workers
Density around the cutoff

![Graph showing density around the cutoff with age (binned in month) at the end of the pre-U employment spell on the x-axis and (sum) C on the y-axis.]
Donut Regression Discontinuity Design

As in Lalive (2007) and Schmieder et al. (2012), also using age discontinuities in UI rules, evidence of very local manipulation

- Standard McCrary test: density \(\approx 8\%\) higher above the cutoff

- Donut RDD: we exclude observations right around the cutoff
  - No theoretical guidelines as to size of the donut hole
  - We show robustness of the results to various sizes
Jump in potential benefit duration at age 50

Regression function fit

- Bin size determined according to Calonico et al. (2014)
Log of reservation wage
Log of actual benefit duration

Regression function fit

- Sample average within bin
- Polynomial fit of order 4
Fuzzy RD estimation

\[
\log Y_i = \alpha + \delta \log PBD + P_0(\text{age}_i - 50) \times 1(\text{age}_i < 50) \\
+ P_1(\text{age}_i - 50) \times 1(\text{age}_i \geq 50) + \epsilon_i
\]

- Where we instrument \( \log PBD \) by \( 1(\text{age}_i \geq 50) \)
- \( P_0(.) \) and \( P_1(.) \) are local polynomials whose coefficients are estimated (without constant)
- We follow Calonico et al. (2014) to select the bandwidth for the polynomial estimation, for bias correction and robust standard error correction
RDD estimates of elasticities of reservation wages and benefit duration w.r.t. PBD

<table>
<thead>
<tr>
<th>Age excluded</th>
<th>(1)  [49.9, 50.1]</th>
<th>(2)  [49.75, 50.25]</th>
<th>(3)  [49.5, 50.5]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log of Reservation wage</td>
<td>Log PBD</td>
<td>0.0116</td>
<td>0.0172</td>
</tr>
<tr>
<td></td>
<td>log PBD</td>
<td>(0.0149)</td>
<td>(0.0162)</td>
</tr>
<tr>
<td>Log of Actual benefit duration</td>
<td>Log PBD</td>
<td>0.211***</td>
<td>0.242***</td>
</tr>
<tr>
<td></td>
<td>log PBD</td>
<td>(0.0786)</td>
<td>(0.0669)</td>
</tr>
<tr>
<td>Obs.</td>
<td>470,082</td>
<td>456,280</td>
<td>432,431</td>
</tr>
</tbody>
</table>