# Replication package for "Outside Options in the Labor Market"

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#### Data

The data used come from two sources:

- 1. LIAB Longitudinal Model 1993-2014 (<u>LIAB LM 9314</u>). We requested and received access to detailed geographic data (ao\_kreis and wo\_kreis), detailed occupational codes (5 digit), and consistent industry codes. The data cannot be shared for privacy reasons.
- 2. BIBB Task data. These are also available through the IAB upon request.

Please contact the IAB to gain access to all of these files: https://fdz.iab.de/en/data-access/

To run R files, on-site access is required.

### OOI Package

To implement the calculation of the OOI on any employer-employee data, please use our package: <a href="https://cran.r-project.org/web/packages/OOI/index.html">https://cran.r-project.org/web/packages/OOI/index.html</a>

#### **Analysis**

The file **analysis.do** produces all the estimates that were calculated to produce all figures and tables in the paper. Approximate run time: 6 hours.

Required STATA packages: estout

### **Data Preparation:**

To generate the data files that were used in the analysis files, follow the following steps:

1. Data preparation in Stata: run the file: master\_clean.do

Approximate run time: 1 day

Input: raw LIAB files Output: dta files for

- Main sample (workers employed on June 30th 2014)
- Shift share analysis (includes also workers employed on June 30th 2004)
- Train sample (workers employed in 1999 and 2012)
- Mass-layoff sample
- Size of districts by workers
- Vacancies data
- Shift-share shocks
- 2. OOI calculation: master\_R.R

Required packages: backports, crayon, dplyr, foreign, haven, modi, readr, stringi, xtable

Required software: R or R-studio 64-bit

Approximate run time: 22 days

Input: processed dta files from the previous stage

Output:

- Adds the OOI calculations to the previous files
- OOI calculation weighted by district size
- OOI by different subsets of variables (Table A4)
- OOI using vacancies instead of all jobs (Columb 7, Table 5)
- Counterfactual OOIs with equal commuting cost (Figure 4)
- Shift share IV

For the map (Figure 2) run the additional two steps:

 clean\_postR\_build\_map\_data.do: Input: dta file for the main sample Output: dta file for map sample

4. Final R run: map.R

Input: map data (reweighted); OOI object

Output: dta files for map data (used for production of Figure 2 in 03\_restud2\_map.do)