Background and motivation

In the U.S., unemployment insurance (UI) has dual goals:

▶ Smooth consumption of job losers (payments to workers)
▶ Automatic stabilizer (experienced rated: claims $\uparrow \Rightarrow$ tax rate $\uparrow \Rightarrow$ a layoff tax)

UI take-up is incomplete:

▶ Undermines both goals
  ▶ Workers do not receive benefits
  ▶ Firms perceive laying off workers to be less costly
Why is UI take-up incomplete?

Standard focus of studies: individual-level factors
- Incentives (e.g., Anderson and Meyer (1997)), information (e.g., Vroman (2009)), hassle (e.g., Ebenstein and Stange (2010))

Novelty of this paper: firm-level factors are also very important

What we do: two-way fixed effects estimator on administrative data from Washington State
- Relative importance of firm to individual effects in claims larger than for wages
- Moving below median firms to median level: claims up 12%
Why and how would firms affect UI take-up?

Why: b/c of experience rating firms care whether workers collect

How: appeal claims

- Industry devoted to managing unemployment claims (Association of Unemployment Tax Organizations; Equifax Workforce Solutions)
- Interviews with job losers suggests different firm attitudes: helping to neglect to actively dissuading (Gould-Werth (2016))

What we show:

- Firm effects in appeals of UI claims
- Firm effects in appeals negatively related to those in claims $\Rightarrow$ deterrence effects

Quantify a simple model: financing of UI affects take-up and targeting (Kleven and Kopczuk (2011), Auray and Fuller (2020))
Outline

- Policy background, data, and summary statistics
- Firm effects in UI take-up and appeals
- Link to (im)perfect competition
- A model of experience rating and UI take-up and targeting
UI background

UI eligibility:

▶ “Monetary” eligibility (in WA, an hours requirement)
▶ Non-monetary eligibility: separate through “no fault of your own”
  ▶ Ambiguity and basis of appeals

UI financing in Washington State:

▶ Tax rate depends on last four years of UI charges (UI received by past workers) at the firm
▶ On the “sloped” part of the schedule, extra $1 in claims a year ⇒ taxes ↑ by ≈ $1 a year
  ▶ If there are enough charges, then tax rate stops increasing (“flat” part of the schedule)
Data

Administrative data from Washington State: 2005-2013

- Earnings and hours records: monetary eligibility exactly
- Whether worker filed
- Whether firm appealed
- Whether worker collected

Observe numerator (who claimed), tricky thing is the denominator (who was eligible)

- Follow Anderson and Meyer (1997) with some refinements (Details)
Take-up rate by income

- Average take-up rate: 45% (Anderson and Meyer (1997, Table 3): 39.1%)
- Lower than estimates following Blank and Card (1991) using CPS to determine eligibility
- Inverted-u
  - 20 percentage points from 1st to 5th decile of wages
  - Downward part is correlated with declining replacement rates (Figure)
Appeals rate by income

- Striking pattern by income: falls by half from 1st to 5th decile of wages
- Negative relationship with claims ⇒ consistent w/deterrence effects
● Policy background, data, and summary statistics
  ● Administrative data from 2005-2013
  ● Incomplete take-up
  ● Stark income gradients in claims and appeals
● Firm effects in UI take-up and appeals
● Link to (im)perfect competition
● A model of experience rating and UI take-up and targeting
Empirical model of claiming

\[ c_{ij} = \alpha_i + \psi_j + \epsilon_{ij}, \]

- \( \alpha_i \) is person effect
- \( \psi_{j(i)} \) is firm effect

Central economic concern: endogenous mobility (people choose firms based on \( \epsilon_{ij} \))
- Sample construction: spells are connected by \( U \)
- Balance in mobility
- Symmetry in changes

Central statistical concern: limited mobility bias
- Report Kline, Saggio and Solvesten (2020) bias-corrected variance components
The role of firms in UI claims

- Balanced and symmetric
- Slope: 0.82
- **Two-way fixed effect results:**
  - Variance (std) of firm effect: 0.022 (0.15)
  - Variance of person effect: 0.049
  
  \[
  \frac{\text{var(firm f.e.)}}{\text{var(person f.e.)}} = \frac{0.022}{0.049} \approx 45\% \quad (20\% \text{ for hourly wages})
  \]

- Move below-median to median firm effect (use dist.): raise take-up by 6 p.p. (12%)

71,000 twice-eligible worker; shrunken leave-one-out, w/o controlling for person f.e.

Details
Individual income and firm effects in claiming remarkably related

- Surprisingly similar to the individual-level graph at the bottom of the income distribution

- Regress firm effects on income deciles: 1st to 5th decile is 60% of the individual-level slope
Firm effects and income gradient in appeals

- 21,000 twice-claiming workers
- Coefficient: 1.08; Mean: 0.037
- Var. (stdev.) of firm/worker effects: 0.0009/ 0.0011 (0.03)

Similar to the individual-level graph
- 1st to 5th decile, 3/4 of the individual slope
Negative relationship between firm claim and appeals rates

shrunk en firm averages in claims and appeals

Looking at firm FE in claiming and appeals (and correcting the slope), we get an elasticity of $-0.16$

Anderson and Meyer (2000): elasticity of claims to separation issue denials: $-0.128$ to $-0.279$

Consistent with deterrence effects
Policy background, data, and summary statistics

Firm effects in UI take-up and appeals
  - Substantial dispersion in firm effects in claims (takeup ↑ 6 p.p. (12%) if below median to median)
  - Relative importance of firm to worker higher for take-up than in wages
  - Firm effects in appeals
  - Negative relationship b/w claims and appeals

Link to (im)perfect competition

A model of experience rating and UI take-up and targeting
Link to (im)perfect competition

- In perfect competition $\Rightarrow$ compensating differential for lower firm-level claims
- In imperfect competition, less clear (Lang and Majumdar (2004), Sorkin (2018)):
  - If amenities are a normal good, some amenities will be positively correlated with earnings
Move to higher claims rate firms ⇒

**individual earnings increases**

**firm-level separation rate decreases**

higher claims rate firms look like “better” firms from the worker perspective
Outline

- Policy background, data, and summary statistics
- Firm effects in UI take-up and appeals
- Link to (im)perfect competition
  - Higher UI claims rate firms more desirable firms
- A model of experience rating and UI take-up and targeting
Statistical model of take-up and targeting

Workers who separate are eligible or ineligible, $e \in \{0, 1\}$:
- Application rate: $A_e$
- Appeals rate: $p_e$
- Receipt (given appealed) rate: $r_e$

To identify parameters for the eligible:
- Assume: incremental workers who separate when the firm contracts are eligible for UI
- We compare $[-0.025, 0.025]$ to $[-0.275, -0.225]\]

Additional moment that identifies parameters for the ineligible:
- Share of ineligible among recipients (Benefit Accuracy Measurement data: 0.13 in WA)
Linking experience rating to appeals to claims

Elasticity of appeals to experience rating:

- Firm pays $\tau$ if worker collects UI (experience rating)
- Firm picks an appeals probability knowing eligibility status:

$$
- p_e r_e \tau \quad - \quad p_e (1 - r_e) \times 0 \quad - \quad (1 - p_e) \tau \quad - \quad \frac{1}{p_e} \left( \frac{1}{\zeta} + 1 \right)
$$

- appeal, receive, pay
- appeal, don’t receive
- don’t appeal, pay
- cost function, $\zeta > 0$

- FOC: $p_e \propto (1 - r_e)^\zeta$
- Then: $\frac{p_1}{p_0} = \left( \frac{1 - r_1}{1 - r_0} \right)^\zeta \Rightarrow \zeta = \ln \frac{p_1}{p_0} / \ln \frac{1 - r_1}{1 - r_0}$

Elasticity of claims to appeals:

- Use x-sectional elasticity
Firms that shrink still face marginal experience rating incentives

- Model assumes experience rating is constant
  - On the “slope” it approximately is
  - On the “flat” part it is not

- Regress outcome on growth rate dummies with and w/o firm f.e.

- W/firm f.e., can use growth rates out to $\approx -0.4$ (informs choice of $-0.25$)
Claims rates rise as firms shrink

- Claims rate rises, but never get above 60%
- ⇒ eligible have higher claims rates than ineligible
Appeals rates fall as firms shrink

- Appeals rate declines—almost by half
- \( \Rightarrow \) eligible are less likely to be appealed than ineligible
Receipt rate (given appeals) rise as firms shrink

- Rise (albeit noisily)
- ⇒ conditional on appeal, eligible more likely to receive
Results

<table>
<thead>
<tr>
<th></th>
<th>Eligible</th>
<th>Ineligible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application rate ((A_e))</td>
<td>0.60</td>
<td>0.14</td>
</tr>
<tr>
<td>Appeals rate ((p_e))</td>
<td>0.02</td>
<td>0.24</td>
</tr>
<tr>
<td>Receipt rate ((r_e))</td>
<td>0.81</td>
<td>0.49</td>
</tr>
</tbody>
</table>

Eligible share at “zero” \((\sigma)\) 0.61

Kleven and Kopczuk (2011) error typology:

- Type IA: \(\sigma(1 - A_1) = 0.24\) (eligible don’t apply)
- Type IB: \(\sigma A_1 p_1 (1 - r_1) = 0.003\) (eligible apply, don’t collect)
- Type II: \((1 - \sigma) A_0 ((1 - p_0) + p_0r_0) = 0.048\) (ineligible collect)

\(\Rightarrow \approx 70\% \) do the correct thing

Elasticity of appeals w.r.t. exp. rating is 2.3
Simulate effects of reducing experience rating

Experience rating ↓ 10% ⇒ take-up ↑ 4% \(\approx -0.1 \times -0.16 \times 2.3\) 

- Type IA: 0.23 (↓ 1 p.p.) (eligible don’t apply)
- Type IB: 0.002 (↓ 0.1 p.p.) (eligible apply, don’t collect)
- Type II: 0.051 (↑ 0.3 p.p.) (ineligible collect)

⇒ 0.8 p.p. more do the correct thing
- “Layoff tax” only decreases by 6% (rather than 10%)

To increase take-up by 12% (i.e., same magnitude as compress firm f.e. distribution):
- A 30% decrease in experience rating
Summary

Typical explanations for incomplete UI take-up focus on individual-level factors.

This paper: **firm-level** factors are also important:

- Relative importance of firm to individual effects in claims larger than for wages.
- Moving below median firms to median level: claims up 12%.
- Firm effects explain large share of income gradient.

Important reason why firms matter: experience rating.

- Important firm effects in appeals, negatively correlated with claims.
- Decreases in experience rating:
  - increase take-up
  - more ineligible claim
  - endogeneity of take-up means reduction in layoff tax smaller.

⇒ Take-up and targeting an important consideration in analyzing changes in financing.
Denominator: who could have claimed

Follow Anderson and Meyer (1997), with some refinements. Get rid of:

- Employer-to-employer (small dip in hours in transition quarter)
- Employment-to-nonemployment (do not see for five quarters after (seasonal))
- “Complicated” histories: multiple employers pre-separation

We use variation in employer growth rates to change mix of non-monetarily “eligible” and ineligible

( Details )
Weekly benefit amount by hourly wage

![Graph showing the relationship between base-period hourly earnings and weekly benefit amount (WBA). The graph demonstrates a curve where WBA increases as base-period earnings increase, peaking and then flattening out.]
Mover regression and its interpretation

Consider a worker at two firms, regressed on firm-level claims rates:

\[ \Delta c_{ij} = \beta \bar{c}_{j,-i} + \Delta \epsilon_{ij} \]

- \( \bar{c}_{j,-i} \): leave-one out mean firm claims rate
- EB: shrinkage (Details)

Then:

\[ \text{plim } \hat{\beta} = \frac{\text{var}(\psi_j - \psi_{j'}) + \text{cov}(\psi_j - \psi_{j'}, \bar{\alpha}_{j,-i} - \bar{\alpha}_{j',-i})}{\text{var}(\psi_j - \psi_{j'}) + \text{var}(\bar{\alpha}_{j,-i} - \bar{\alpha}_{j',-i}) + 2\text{cov}(\psi_j - \psi_{j'}, \bar{\alpha}_{j,-i} - \bar{\alpha}_{j',-i})} \]

- If sorting is positive (below, we show it is), then coefficient gives lower bound on share of variance of between-firm means in claim rates that is due to firm effects (Details)
Estimating hyper-parameters for shrinkage

- \( C_j \): number of claims at firm \( j \)
- \( N_j \): number of (eligible) separators at firm \( j \)
- Assume \( c \sim \mathcal{B}(\alpha, \beta) \), true distribution of claims rates are beta
- Then: \( \Pr(C_j|c, N_j) = \binom{N_j}{C_j} c^{C_j} (1 - c)^{N_j - C_j} \)
- \( \theta \) is observed data (\( j^{th} \) row is \( (N_j, C_j) \), \( \theta = \{\alpha, \beta\} \):

\[
\max_{\theta} \mathbb{P}\{\mathcal{O}|\theta\} = \max_{\theta} \prod_j \omega_j \left( \int_{c=0}^{1} \binom{\mathcal{O}_j|c}{c|\theta} \times \mathbb{P}\{c|\theta\} dc \right)
\]

- Posterior: \( \hat{c}_j^{EB} = \frac{C_j + \hat{\alpha}}{N_j + \hat{\alpha} + \hat{\beta}} \)

- Back to mover reg
### Variance decomposition of claims rates

<table>
<thead>
<tr>
<th></th>
<th>Plug-in</th>
<th>Leave-out (KSS)</th>
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</thead>
<tbody>
<tr>
<td>UI claims</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>Firm effects</td>
<td>0.079</td>
<td>0.022</td>
</tr>
<tr>
<td>Person effects</td>
<td>0.169</td>
<td>0.049</td>
</tr>
<tr>
<td>Covariance</td>
<td>−0.038</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Standard deviation of firm effects: 0.1489, about a third of the mean claims rate

(Back to talk)
Sensitivity of share of variance in firm f.e. in claiming attributable to challenges to the relevant elasticity

![Graph showing the sensitivity of share of variance in firm f.e. in claiming attributable to challenges to the relevant elasticity. The graph plots the percent of variance of firm effects in claiming against the elasticity of claims with respect to challenges.]