Wage Insurance and Labor Market Trajectories

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Severe Consequences of Job Displacement


- **Persistent non/unemployment** (Ruhm 1991, Chan and Stevens 2001, Song von Wachter 2014)

- **Lower wealth** (Stevens and Moulton 2013)

- **Increased mortality** (Sullivan and von Wachter 2009)

- **Higher divorce rates** (Charles and Stephens 2004)

- **Lower educational achievement of children** (Stevens and Schaller 2011)
Wage Insurance for Displaced Workers

• Wage Insurance
  • Proposals since at least mid-1980s (Lawrence and Litan 1986, “earnings insurance”)
  • Workers whose reemployment wages are lower than their pre-displacement wages receive a temporary subsidy covering a portion of the wage decline

• Motivations (e.g. Kletzer (2001) Senate testimony)
  • Address earnings losses of displaced workers
  • Support workers for whom training is ineffective
  • Incentivize speedy reemployment
  • Implicitly subsidize on-the-job training
Wage Insurance Example

- Example with 50% subsidy rate (TEGL 22-08)
  - Pre-displacement yearly earnings $50,000
  - Post-displacement yearly earnings $20,000
  - Yearly wage subsidy = \[0.5 \cdot (50,000 - 20,000) = 15,000\]

- Implications in McCall (1970) search model
  - Lower offered reservation wage, higher subsidy-inclusive reservation wage
  - Shorter unemployment duration

![Graph showing wage distribution](image)
Wage Insurance in the US

• Part of the Trade Adjustment Assistance (TAA) program
  • Benefits workers displaced due to import competition or offshoring (certified by DoL)
  • Extended UI payments and job training costs (up to 3 years)

• Wage insurance demonstration program (ATAA) in 2002, permanent (RTAA) 2009
  • >36,000 participants since 2002

• Reemployment Trade Adjustment Assistance
  • 50% subsidy rate for up to 2 years (s.t. max benefit cap and max reemployment earnings)
  • Workers affected by TAA-certified displacement
  • Age 50 or over
Research Agenda: Wage Insurance Impacts and Program Design

• Primary empirical approach (Hyman Kovak Leive 2021)
  • LEHD matched to TAA administrative data identifying eligible workers
  • Age-at-displacement regression discontinuity design

• This paper: complementary event study design w/ Virginia data
  • VA Employment Commission data on all TAA-eligible workers receiving DoL services
  • Merged quarterly UI earnings, 2005-2018
  • Compare earnings and employment trajectories for
    • RTAA eligible at displacement: age 50-54
    • RTAA ineligible at displacement: age 45-49
    • Note: both groups eligible for standard TAA (training and extended UI)
Older Displaced Workers More Likely to Take Up Wage Insurance

Comparison yields effect of wage insurance eligibility beyond effects of TAA eligibility (Hyman 2018).

(a) Program takeup: Ages 45-49

(b) Program takeup: Ages 50-54
• TAA-eligible VA workers receiving DoL services (includes TAA and wage insurance)
• TAA petition filed on or after May 18, 2009 (RTAA period)
• Displaced prior to 2018 (ensures observed post-separation)
• Age 45-54 at separation date
• High labor force attachment
  • Earned \( \geq \$3,000 \) in each quarter 8-5 quarters prior to separation
Potential Limitations

- Only one state (Virginia)  

- Eligibility rules for SSI/SSDI change at 50 (Chen and van der Klaauw 2008)

- VA data omit eligible workers who did not take up standard TAA or wage insurance
  - Potential endogenous sample selection
  - e.g. quickly reemployed workers omitted if age 45-49 but included if age 50-54 and take up wage insurance
No Evidence for Sample Selection Concern

- No break in the density of separation-age at 50
- Well balanced observables (except those mechanically affected by age)

TAA Participants (incl. RTAA), by Separation Age
No Evidence for Sample Selection Concern

<table>
<thead>
<tr>
<th></th>
<th>Separation Age: 45-49</th>
<th>Separation Age: 50-54</th>
<th>(50-54) - (45-49)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (1)</td>
<td>SD (2)</td>
<td># Workers (3)</td>
</tr>
<tr>
<td>Age at Separation</td>
<td>47.5 [1.44]</td>
<td>1,027</td>
<td></td>
</tr>
<tr>
<td>Wage Insurance Takeup</td>
<td>0.049 [0.22]</td>
<td>1,027</td>
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<tr>
<td>Employer Tenure (Years)</td>
<td>13.3 [8.45]</td>
<td>836</td>
<td></td>
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<tr>
<td>Year of Separation</td>
<td>2010.6 [1.97]</td>
<td>1,027</td>
<td></td>
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<tr>
<td>Earnings, Quarters -8 to -5</td>
<td>12,645 [6,971]</td>
<td>1,027</td>
<td></td>
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<tr>
<td>Less than High School</td>
<td>0.093 [0.29]</td>
<td>839</td>
<td></td>
</tr>
<tr>
<td>High School</td>
<td>0.59 [0.49]</td>
<td>839</td>
<td></td>
</tr>
<tr>
<td>Some Postsecondary</td>
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<tr>
<td>College or Higher</td>
<td>0.081 [0.27]</td>
<td>839</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0.38 [0.49]</td>
<td>839</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>0.28 [0.45]</td>
<td>810</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>0.66 [0.47]</td>
<td>810</td>
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</tr>
</tbody>
</table>

Notes: Sample is restricted to highly-attached workers. T-tests in (7) and (8) use heteroskedastic-robust standard errors. Observation counts vary due to incomplete demographic data (treated as missing in regressions with controls).
(a) Short-run employment differences, but long-run employment convergence

(b) Lower long-run earnings replacement
Employment and Earnings Replacement Event Study Estimates

\[ Y_{it} = \alpha D_i + \sum_{\tau \neq -1} [\delta_{\tau} \times 1\{t - s_i = \tau\} + \beta_{\tau} \times 1\{t - s_i = \tau\} \times D_i] + X'_{it} \gamma + \varepsilon_{it} \]

(a) Employment Share Event Study

(b) Earnings Replacement Event Study

- Controls: separation qtr. FE, race, gender, education, pre-displacement tenure, quadratic in age
- Standard errors clustered by worker
• Wage insurance eligible workers have...
  • modestly higher employment probability during benefit period
  • similar long-run earnings and employment

• Comparison is standard TAA (training and extended UI) rather than baseline UI
  • Standard TAA training precludes short-run full-time employment
  • Positive impact of standard TAA on long-run earnings and employment (Hyman 2018)

• Future work
  • Compare results using alternative data and research design (RD in LEHD)
  • Given similar long-run outcomes of standard TAA and wage insurance, compare social costs
RTAA Takeup Rate Among TAA-Takers

The graph shows the proportion with WI (Wage Insurance) against age at separation for RTAA (Real-Time Announcement of Aggregate) events. The x-axis represents age at separation, ranging from 46 to 54, while the y-axis represents the proportion with WI, ranging from 0 to 4.


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Earnings Replacement for Employed Workers

[Graph showing the rate of wage replacement over time for different age groups (Ages 45-49 and Ages 50-54)]
## Virginia vs. Rest of US: Trade Act Participants

<table>
<thead>
<tr>
<th></th>
<th>TAPR for VA</th>
<th>TAPR for Rest</th>
<th>Rest - Virginia</th>
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<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Difference</td>
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<td>HS or Less</td>
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<td>0.65</td>
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<tr>
<td>Female</td>
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<td>Asian</td>
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<tr>
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<td>Hispanic</td>
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<td>0.10</td>
<td>0.076</td>
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<tr>
<td>White</td>
<td>0.71</td>
<td>0.45</td>
<td>0.78</td>
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<tr>
<td>Veteran Status</td>
<td>0.098</td>
<td>0.30</td>
<td>0.083</td>
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<tr>
<td>Tenure</td>
<td>149.8</td>
<td>125.1</td>
<td>135.4</td>
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<tr>
<td>Age at Separation</td>
<td>47.0</td>
<td>9.89</td>
<td>46.3</td>
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<tr>
<td>Prior Earnings (3Q)</td>
<td>8,853.4</td>
<td>5,851.1</td>
<td>7,874.6</td>
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<tr>
<td>Prior Earnings (2Q)</td>
<td>8,834.1</td>
<td>6,467.4</td>
<td>7,299.7</td>
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<tr>
<td>Prior Earnings (1Q)</td>
<td>7,563.2</td>
<td>6,794.0</td>
<td>6,177.2</td>
</tr>
<tr>
<td>Δ Prior Earnings</td>
<td>1,339.3</td>
<td>7,057.1</td>
<td>1,692.4</td>
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<tr>
<td>Observations</td>
<td>6,973</td>
<td>150,990</td>
<td>157,963</td>
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