Getting labor markets right: outside options and occupational mobility

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We develop a methodology that measures **worker mobility** across occupations and uses it to identify **local labor markets**. This enables researchers and policymakers to measure the value of local **outside options** for different worker groups. We find that when workers have better opportunities outside of their current occupation, they get higher wages *in* their current occupation.
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- Current practice of using a single occupation to define labor markets is inadequate.
How we measure labor markets

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  - Where workers go when they leave their jobs - transition probability for each target occupation ("relevance")
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  - **Our definition:** All the local occupations that a worker could move to, weighted by the observed probability of moving into them.
Example: Urban & Regional Planners
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No job change: 54%

Year 1

Urban & Regional Planners

Year 2

Continuing Urban & Regional Planners
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Year 2

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Urban & Regional Planners

Year 1

- No job change: 54%
- Changed job, same occupation: 34%
- Changed job, new occupation: 12%

Year 2

Continuing Urban & Regional Planners

New occupation

Share of new occupations:

- Managers, other: 11%
- Gen. & ops. mgr: 6%
- Mgmt. analyst: 5%
- CEO: 5%
- Postsec. teacher: 5%
- Event planner: 3%
- Other new occ.: 65%
## ‘Stickiest’ and ‘least sticky’ large occupations (2002-2018)

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Leave share (%)</th>
<th>Main target occ.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental hygienists</td>
<td>6</td>
<td>Dental assistants</td>
</tr>
<tr>
<td>Nurse practitioners</td>
<td>9</td>
<td>Registered nurses</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>9</td>
<td>Medical &amp; health svc mgrs.</td>
</tr>
<tr>
<td>Firefighters</td>
<td>10</td>
<td>EMTs &amp; paramedics</td>
</tr>
<tr>
<td>Self-enrichment educ. teachers</td>
<td>10</td>
<td>Teachers/instructors, all other</td>
</tr>
<tr>
<td>Physical therapists</td>
<td>11</td>
<td>Medical &amp; health svc mgrs.</td>
</tr>
<tr>
<td>:</td>
<td>:</td>
<td>:</td>
</tr>
<tr>
<td>Counter attendants, food</td>
<td>32</td>
<td>Retail salespersons</td>
</tr>
<tr>
<td>Bill and account collectors</td>
<td>32</td>
<td>Customer service rep.</td>
</tr>
<tr>
<td>Tellers</td>
<td>32</td>
<td>Customer service rep.</td>
</tr>
<tr>
<td>Machine setters, operators &amp; tenders (metal &amp; plastic)</td>
<td>32</td>
<td>Production workers, other</td>
</tr>
<tr>
<td>Telemarketers</td>
<td>36</td>
<td>Customer service rep.</td>
</tr>
<tr>
<td>Food servers, nonrestaurant</td>
<td>45</td>
<td>Waiters and waitresses</td>
</tr>
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</table>

‘Share leaving’ is the number of people observed in occupation $i$ in year $T$ who are observed in any other occupation in year $T + 1$, as a share of all job switchers.
How does a person’s labor market affect their wages?

Labor economists often think of wage determination as a negotiation over a “match surplus” where both sides have ‘power’ and outside options:
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- Marginal product of worker at firm
- Match surplus
- Wage in this range
- Match surplus
- Worker outside option (expected wage at alternate job)
- Firm outside option (cost of equivalently good worker)
- Unemployment (reservation wage)
Registered Nurses example

Which occupations do registered nurses go to?
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⇒ Nurses have better bargaining outside options if there are many local health service management jobs that have high wages.
Better outside options leads to higher wages

- Our measure of local **outside options**: the weighted-average wage for the jobs in a person’s labor market outside of their current occupation
  - Weights are relevance of each other occupation (=transition probability) and number of local jobs in other occupation
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- ...even when focusing only on plausibly exogenous variation in local outside options due to national wage trends
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Labor market concentration and wages

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- Implied mechanism: Fewer, larger employers $\Rightarrow$ more bargaining power $\Rightarrow$ lower wages
Labor market concentration effects are heterogeneous

Empirical findings:

- **Mobility matters:** Employer concentration has a bigger negative effect on wages for the **least mobile** occupations.
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- Neglecting the effect of outside options on wages will overestimate the importance of concentration for wages.
Conclusion

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- Shocks will spill over to wages in occupations that are in the same labor market.
Example:

- *Tree trimmers and pruners* face the same level of concentration among employers as *Optometrists* in Columbus, OH - corresponding to ca. 3 large employers splitting the market.
- But tree trimmers are much more mobile: 30% find a job in a new occupation when changing jobs; for optometrists mobility is only 17%.

⇒ Potential for large employer to pay lower wages *relative to their productivity* is higher for optometrist than for tree trimmers because the latter are more mobile.
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How are people moving between occupations?
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1. **Lateral moves into closely related occupations**
   
   *Example:*
   
   - 34% of computer programmers who leave become web developers, software developers, or another computer occupation.
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2. **Career progression**

   *Example:*
   - 16% of human resources specialist who leave become human resource managers
   - 12% of mechanical engineers who leave become engineering managers
How are people moving between occupations?

1. **Lateral moves into closely related occupations**
2. **Career progression**
3. **Occupational similarity in tasks**
   
   *Example:*
   
   ▶ 21% of biological scientists who leave become operations research or management analysts
How are people moving between occupations?

1. Lateral moves into closely related occupations
2. Career progression
3. Occupational similarity in tasks
4. Occupational similarity in amenities

Example:
- 7% of archivists and 20% of proofreaders and copy markers become writers