Disaggregating the Matching Function

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Net Change in Household Employment and Gross Hires

Source: Current Population Survey
Note: Shading shows NBER recessions.
Log Job-filling Rate vs.
Log Unemployment/Vacancies

(Quarterly Data, 1975Q3-2016Q1)
Hiring Function Regressions

\[
\frac{H[U,V]}{V} = A \left( \frac{U}{V} \right) ^\alpha
\]

<table>
<thead>
<tr>
<th>Hires</th>
<th>Start Date</th>
<th>A</th>
<th>( \alpha )</th>
<th>( \alpha ) s.e.</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>UE+NE+EE</td>
<td>1975Q3</td>
<td>4.80</td>
<td>0.37</td>
<td>0.02</td>
<td>0.88</td>
</tr>
<tr>
<td>UE+NE+EE</td>
<td>1994Q1</td>
<td>5.16</td>
<td>0.31</td>
<td>0.02</td>
<td>0.92</td>
</tr>
<tr>
<td>JOLTS Hires</td>
<td>2001Q1</td>
<td>3.14</td>
<td>0.20</td>
<td>0.03</td>
<td>0.92</td>
</tr>
</tbody>
</table>


Note: Quarterly Data, ends in 2016-Q1
As noted in Okun (1962), the unemployment rate is at best "a proxy variable for all the ways in which output is affected by idle resources."

Vacancies

• 20% of all new hires involve no formal vacancy or recruiting time by the employer

Vacancies

• 41.6% of hires took place at establishments with no recorded vacancy going into the month.

• In a model of daily hiring fitted to monthly data, 27.4% of hires would have taken place at establishments that filled vacancies too quickly to be in the data.

Davis, Faberman, and Haltiwanger (2013), JOLTS data from January 2001 through December 2006,
## Hiring probability, hires by job status and search effort

<table>
<thead>
<tr>
<th>Job status</th>
<th>Search activity</th>
<th>Percent hired</th>
<th>Hires, by job status</th>
<th>Hires, overall</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employed</strong></td>
<td>No search</td>
<td>1.8%</td>
<td>77.6%</td>
<td>25.7%</td>
</tr>
<tr>
<td></td>
<td>Search</td>
<td>11.3%</td>
<td>22.4%</td>
<td>7.4%</td>
</tr>
<tr>
<td><strong>Not employed</strong></td>
<td>Not in labor force (no search)</td>
<td>4.9%</td>
<td>63.1%</td>
<td>42.2%</td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>29.1%</td>
<td>36.9%</td>
<td>24.7%</td>
</tr>
</tbody>
</table>


# Search Effort and Outcomes by Labor Force Status

<table>
<thead>
<tr>
<th></th>
<th>Employed</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wants</td>
<td>Wants</td>
<td>Not</td>
<td>Unemployed</td>
<td>OLF</td>
</tr>
<tr>
<td></td>
<td>New Job</td>
<td>Addl. Job</td>
<td>Looking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pct. of population</td>
<td>11.6</td>
<td>7.3</td>
<td>56.3</td>
<td>5.0</td>
<td>19.7</td>
</tr>
<tr>
<td>Pct. of offers received</td>
<td>26.3</td>
<td>21.2</td>
<td>28.1</td>
<td>13.1</td>
<td>11.3</td>
</tr>
</tbody>
</table>

Note: Estimates come from authors’ tabulations from the SCE Labor Supplement for October 2013 and 2014, restricted to individuals aged 18-64.

Hires from U and N as a Fraction of Employment

Source: Current Population Survey

Note: Shading shows NBER recessions.
Log Job-filling Rates by Source vs. Log Unemployment/Vacancies

(Quarterly Data, 1975Q3-2016Q1)
### Separate Hiring Regressions

\[
\frac{H[U,V]}{V} = A \left( \frac{U}{V} \right)^{\alpha}
\]

<table>
<thead>
<tr>
<th>Hires</th>
<th>Start Date</th>
<th>(A)</th>
<th>(\alpha)</th>
<th>(\alpha) s.e.</th>
<th>(R^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UE+NE+EE</td>
<td>1975Q3</td>
<td>4.80</td>
<td>0.37</td>
<td>0.02</td>
<td>0.88</td>
</tr>
<tr>
<td>UE</td>
<td>1975Q3</td>
<td>0.98</td>
<td>0.63</td>
<td>0.01</td>
<td>0.82</td>
</tr>
<tr>
<td>NE</td>
<td>1975Q3</td>
<td>1.89</td>
<td>0.40</td>
<td>0.02</td>
<td>0.84</td>
</tr>
<tr>
<td>EE</td>
<td>1975Q3</td>
<td>1.96</td>
<td>0.15</td>
<td>0.03</td>
<td>0.81</td>
</tr>
<tr>
<td>UE+NE+EE</td>
<td>1994Q1</td>
<td>5.16</td>
<td>0.31</td>
<td>0.02</td>
<td>0.92</td>
</tr>
<tr>
<td>UE</td>
<td>1994Q1</td>
<td>1.02</td>
<td>0.57</td>
<td>0.02</td>
<td>0.86</td>
</tr>
<tr>
<td>NE</td>
<td>1994Q1</td>
<td>2.07</td>
<td>0.36</td>
<td>0.02</td>
<td>0.92</td>
</tr>
<tr>
<td>EE</td>
<td>1994Q1</td>
<td>2.11</td>
<td>0.06</td>
<td>0.04</td>
<td>0.84</td>
</tr>
</tbody>
</table>


Note: Quarterly Data, ends in 2016-Q1
Log Job-filling Rates by Source vs. Log Unemployment/Vacancies, Observations Since 2009 Q3 in Black

(Quarterly Data, 1975Q3-2016Q1)
Matching Function Regression Residuals

Note: Quarterly Data, 1975-Q3 - 2016-Q1
Fraction of Hires by Source vs. Log Unemployment/Vacancies, Observations Since 2009 Q3 in Black

(Quarterly Data, 1975Q3-2016Q1)
Log Job-filling Rates by Source vs. Log Unemployment/Vacancies, Observations Since 2009 Q3 in Black

(Quarterly Data, 1994Q1-2016Q1)
Log job-filling rates by gender and log unemployment-vacancy ratio, Observations Since 2009 Q3 in Black

(Log UEV vs. Log Unemployment/Vacancies by Gender
Female | Male

Log NEV vs. Log Unemployment/Vacancies by Gender
Female | Male

Log EE/V vs. Log Unemployment/Vacancies by Gender
Female | Male

(Quarterly Data, 1994Q1-2016Q1)
Log job-filling rates by age and log unemployment-vacancy ratio, Observations Since 2009 Q3 in Black

(Quarterly Data, 1994Q1-2016Q1)
Fraction of Total Employment that is Part-time

Fraction of Hires into Part-time Employment

Source: Current Population Survey

Note: Shading shows NBER recessions.
Log (UEPT,UEFT)/Vacancies and Log Unemployment/Vacancies
Observations Since 2009 Q3 in Black

Note: Quarterly Data – 1994-Q1 - 2016-Q1
Source: BLS, JOLTS, Barnichon (2010)
Unemployed to Employed Flow Rates, Part-time and Full-time

Source: Current Population Survey

Note: Shading shows NBER recessions.
Log (NEPT,NEFT)/Vacancies and Log Unemployment/Vacancies Observations Since 2009 Q3 in Black

Note: Quarterly Data – 1994-Q1 - 2016-Q1
Source: BLS, JOLTS, Barnichon (2010)
Not in the Labor Force to Employed Flow Rates, Part-time and Full-time

Source: Current Population Survey
Note: Shading shows NBER recessions.
Part-time for Economic Reasons as a Fraction of Part-time Employment

Source: Current Population Survey

Note: Shading shows NBER recessions.
it [is] necessary for man with his limited powers to go step by step; breaking up a complex question, studying one bit at a time, and at last combining his partial solutions into a more or less complete solution of the whole riddle.

... Each exact and firm handling of a narrow issue, however, helps towards treating broader issues, in which that narrow issue is contained, more exactly than would otherwise have been possible.