The Geographic Distribution of U.S. Unemployment by Gender

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1st Annual EDA Economic Development Research Symposium
West Virginia University
Morgantown, WV USA
October 22, 2009
Outline

Introduction

Review of the Literature

Data and Methodology

Analysis

Discussion

Conclusions
April Unemployment Rates in the U.S. from 1949 to 2009

Introduction

What is the geographic distribution of unemployment by gender?

What is the effect of local and regional unemployment, and their interaction, on the likelihood of unemployment by gender?

Are the underlying patterns of unemployment different for men and women?

Spain (Alonso-Villa and Del Rio, 2008)
Regional Variation in Unemployment

Gould and Fieldhouse (1997)

Persistent geographic variation in male unemployment in the UK.

“Further research should look in more detail at both the nature and the causes of...variations for different groups (such as women or ethnic minorities)” (p. 626)
Review of the Literature

Geographic Distribution of Unemployment

Disequilibrium – workers are unable to respond to demand gradients between labor market areas.

Equilibrium – worker preferences for area-specific bundles of wages, rents and amenities compensate for higher unemployment.

Italy (Cracolici et al. 2007)
Spain (Lopez-Bazo et al. 2005)
Data and Methodology

Data

Public Use Microdata Sample-L (PUMS-L)

Wages, Rents & Amenities

Methodology

Multilevel Model

Random-Intercept
## Analysis

### Individual-Level Fixed-Effect Coefficients (Log Odds)

<table>
<thead>
<tr>
<th>Explanatory Variable</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>$-3.014^* (0.049)$</td>
<td>$-3.676^* (0.065)$</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managerial/Professional Specialty</td>
<td>$-0.001 (0.036)$</td>
<td>R</td>
</tr>
<tr>
<td>Technical/Sales/Support</td>
<td>R</td>
<td>$-0.026 (0.046)$</td>
</tr>
<tr>
<td>Service</td>
<td>$+0.174^* (0.032)$</td>
<td>$+0.304^* (0.050)$</td>
</tr>
<tr>
<td>Primary Sector</td>
<td>$+0.598^* (0.076)$</td>
<td>$+0.334^* (0.054)$</td>
</tr>
<tr>
<td>Precision Production/Craft/Repair</td>
<td>$+0.312^* (0.061)$</td>
<td>$+0.547^* (0.041)$</td>
</tr>
<tr>
<td>Operator/Fabricator/Laborer</td>
<td>$+0.548^* (0.033)$</td>
<td>$+0.670^* (0.041)$</td>
</tr>
</tbody>
</table>

Note: *, **, and *** indicate significance at 99%, 95%, and 90% confidence levels, respectively. Standard errors appear in parentheses. R designates the referent category.
## Analysis

### Labor Market Area-Level Fixed-Effect Coefficients (Log Odds)

<table>
<thead>
<tr>
<th>Explanatory Variable</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Living</td>
<td>+0.003 (0.002)</td>
<td>-0.004 (0.003)</td>
</tr>
<tr>
<td>Cultural Amenities</td>
<td>+1E−6 (2E−06)</td>
<td>0.000 (2E−06)</td>
</tr>
<tr>
<td>Natural Amenities</td>
<td>+0.004 (0.011)</td>
<td>-0.011 (0.013)</td>
</tr>
<tr>
<td>Per Capita Personal Income</td>
<td>-2E−5* (5E−6)</td>
<td>-1E−06 (5E−06)</td>
</tr>
<tr>
<td>Recreational Amenities</td>
<td>-3E−6 (1E−5)</td>
<td>-6E−6 (1E−5)</td>
</tr>
<tr>
<td>Right-to-Work (1 = Yes/0 = No)</td>
<td>-0.072*** (0.040)</td>
<td>-0.168* (0.048)</td>
</tr>
<tr>
<td>Local Unemployment Rate</td>
<td>+0.087* (0.026)</td>
<td>+0.101* (0.031)</td>
</tr>
<tr>
<td>Regional Unemployment Rate</td>
<td>+0.069* (0.024)</td>
<td>+0.065** (0.028)</td>
</tr>
<tr>
<td>Local × Regional Unemployment Rate</td>
<td>-0.005 (0.003)</td>
<td>-0.003 (0.004)</td>
</tr>
<tr>
<td>Region</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northeast</td>
<td>+0.112 (0.069)</td>
<td>+0.356* (0.085)</td>
</tr>
<tr>
<td>Midwest</td>
<td>+0.015 (0.049)</td>
<td>+0.214* (0.059)</td>
</tr>
<tr>
<td>South</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>West</td>
<td>+0.080 (0.062)</td>
<td>+0.297* (0.075)</td>
</tr>
</tbody>
</table>

**Note:** *, **, and *** indicate significance at 99%, 95%, and 90% confidence levels, respectively. Standard errors appear in parentheses. R designates the referent category.
Analysis

Intraclass Correlation Coefficient (ICC)

Within-class variation far exceeds between-class variation for both females (99.2%) and males (97.8%).
Analysis

Odds of Unemployment in Different-Sized Metropolitan Centers
Analysis

LISA Maps of Residuals from Multilevel Models of Unemployment

Female

Male
Conclusions

Labor market legislation impacts the likelihood of unemployment and the impacts are greater for men than for women.

The vast majority of the variation in the likelihood of unemployment culminates from differences between individuals within labor market areas, not between labor market areas.

Female unemployment is not as clustered in space as male unemployment.