Undocumented Worker Employment and Firm Survival

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Main Questions

- Does the employment of undocumented workers give firms a competitive advantage?
- What kinds of firms employ undocumented workers?
- Does the incidence of undocumented employment and the competitive advantage vary with geographic market size?
Literature

- Large literature on undocumented workers
  - Estimated 10.3 million illegal immigrants in U.S. in 2004, and 5.9 million from Mexico alone (Passel 2005)
  - Mexican immigrants to U.S. are much less educated than U.S. natives on average (Borjas and Katz 2005)
  - Undocumented workers have significantly lower wages than documented workers (Hotchkiss and Quispe-Agnoli 2008)
  - Wages are lower for documented workers in industries with more undocumented workers
  - Undocumented workers have labor supply elasticities about half as large as documented workers
Literature

- Just one firm-level study on undocumented workers - Morales (1983-1984) conducts 8 case studies of Los Angeles auto parts manufacturers
  - Firms respond to growing competition by employing undocumented workers
  - Those employing undocumented workers are more labor-intensive and face more variable demand
Competing Hypotheses for Wage Differential

- Wage gap compensates for lower productivity of undocumented workers or higher risk of employing them
  - lower education (quality or quantity), shorter tenure (higher turnover), language barriers
  - immigration enforcement penalties

→ no competitive advantage
Monopsonistic Discrimination (Robinson 1933)

- Undocumented workers reluctant to complain about low or unpaid wages, poor working conditions, because of fear of deportation

- Job switching more dangerous for undocumented workers, as some employers report workers to immigration authorities

- Employers take advantage of labor market segmentation and thus a lower labor supply elasticity of undocumented workers, resulting in undocumented worker wages below marginal revenue product

→ *competitive advantage*
Data

- Administrative data from the Georgia Dept. of Labor
  - quarterly data from 1990 to 2006
  - estimations include data 1995 to 2005
- Longitudinal firm records
  - 6-digit NAICS industry
  - County (159)
  - total employment and wages by quarter
Data

- Longitudinal worker records
  - linked to firm by firm ID
  - Social Security Number, quarterly earnings
  - no other worker characteristics

- Regressions include 4,676,294 observations for 247,541 firms
Identifying Invalid Social Security Numbers

- High area number (not all have been issued)
- Group number out of sequence with area number (not all have been issued)
- All zeros for area number, group number, and/or serial number
- The firm’s employer identification number
- Duplicate observations of the same SSN in the firm
- SSN used previously in another firm with a different surname
Reasons for Invalid SSNs


- Invalid because of high area number or out-of-sequence group number
- Invalid for any other reason
Share of Firms with Undoc. Workers by Sector

Percent of firms employing undocumented workers by broad sector, 1990:1-2006:4
Share of Firms with Undoc. Workers in Agriculture

Percent of firms employing and percent of workers that is undocumented, Agriculture and Natural Resources sector, 1990:1 - 2006:4

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- **Percent of Firms Employing Undocumented Workers (R)**
- **Percent of Workers that is Undocumented (L)**

Graph showing the trend from 1990:1 to 2006:4.
### How Well Do We Measure Undocumented Workers?

<table>
<thead>
<tr>
<th>Percent of County Population that is:</th>
<th>Percent of Undocumented Workers in County</th>
<th>Percent of FirmsEmploying Undocumented Workers in County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic</td>
<td>0.18</td>
<td>0.38</td>
</tr>
<tr>
<td>Asian</td>
<td>-0.02</td>
<td>0.27</td>
</tr>
<tr>
<td>African American</td>
<td>-0.19</td>
<td>-0.13</td>
</tr>
</tbody>
</table>
(a) Growth in earnings suspense file and number of undocumented workers identified in Georgia, 1990-2006.
How Well do We Measure Undocumented Workers?

(b) Growth in earnings suspense file and percent of workers identified as undocumented in Georgia, 1990 - 2006.
Empirical Strategy

- Estimate the effect of employing at least one undocumented worker on firm exit, separately for 12 broad sectors.
- Control for other factors that could influence firm exit: age, size, average wage, proportion of part-time employees, multi-establishment, employment churning, employment variability, growth in the industry and county-sector, per capita income and poverty rate in county, 3-digit industry dummies, and year-quarter dummies.
Empirical Strategy

- Include industry share of firms employing undocumented workers, a measure of geographic market size, and their interaction.
- Deal with potential endogeneity of variables by lagging them four quarters.
Empirical Strategy

- To control for potential endogeneity of the firm’s undocumented worker variable, we simultaneously estimate an undocumented worker employment regression, which includes the additional control variables of population density, Hispanic enrollment, and the proportion of firms in the sector-county employing undocumented workers.
Results on Determinants of Employing Undocumented Workers

- Characteristics associated with undocumented worker employment include:
  - Older firms
  - Larger size
  - Multi-establishment firms
  - Low average documented wage
  - Low proportion of part-time documented workers
  - Low documented worker tenure
  - High documented workforce churning
  - High documented employment variability
Results on Determinants of Employing Undocumented Workers

- Characteristics associated with undocumented worker employment include:
  - Growth in industry, county-sector, and county population
  - Local markets
  - Other firms’ employment of undocumented workers in the industry (especially in local markets) and county-sector
  - High population density
  - High Hispanic school enrollment
Magnitude of Undocumented Worker Reduction in Firm Exit Rate Across Sectors
Exit Results

- The firm’s employment of undocumented workers has a negative and significant effect on its own exit propensity in all sectors, and the effect is usually large – it can as much as halve the exit rate.
- Employment of undocumented workers by other firms in the industry raises a firm’s exit propensity.
- In manufacturing, financial services, professional & business services, and education & healthcare, the negative effect of employment of undocumented workers by other firms in the industry is stronger in local markets.
Conclusions and Implications

- Firms employing undocumented workers have a competitive advantage over similar firms not employing undocumented workers.
- Competitive advantage is stronger in geographically segmented markets.
- Prisoners’ Dilemma: firms would be better off if whole industry stopped employing undocumented workers.
Conclusions and Implications

- Economic implication
  - tougher immigration enforcement will increase production costs and consumer prices, especially of local-market goods and services

- Political implications
  - tougher immigration enforcement will be opposed by industries with geographically segmented markets
  - better enforcement of undocumented workers’ rights may reduce firms’ competitive advantage from undocumented employment, lowering demand for them