Information Externalities and Small Business Lending by Banks: A Comparison of Metro and Rural Counties in the U.S

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Importance of Small Businesses

- Strengthening entrepreneurship is important for growth
- Small businesses account for around 50% of GDP in the U.S.
- Financing is crucial to the survival of small business
- Thin information on local viability creates financing problems for Small & Medium-sized Enterprises (SMEs)
Research Questions

- Why do SMEs in some counties receive more loans than SMEs in other counties?
- Do varying local levels of information (i.e. thick vs thin markets) create information externalities, which in turn affect lending to local SMEs?
  - Geographic Informational Asymmetries
Focal Variable and County Typology

- Focal variable: Lending per SME
  - Small banks <$1 billion in assets
  - Local HQ/branches, relationship lending
  - Most likely to be sensitive to information

- Metro, Micro, and Rural counties
  - Metro: 1100 counties (84% of pop’n)
  - Micro: 688 counties (10% of pop’n)
  - Rural: 1354 counties (6% of pop’n)
Key Explanatory Variables

- Competition in the local banking market
  - Number, assets, & deposits relative to SMEs
- How well are local banks performing?
  - Performance and Charge-offs
- Market's informational thickness
  - Density of SMEs per capita
  - Births and deaths of SMEs per capita
  - Bank assets per SME
Data

- National Survey of Small Biz Finance: NSSBF
  - Federal Reserve and U.S. Small Biz Admin
- Commercial banks: 1999 through 2006
  - FDIC Call Reports
- Small banks <$1 billion assets = 35,442
- Stratified by county type
  - Metropolitan: 3,686 banks
  - Micropolitan: 12,739 banks
  - Rural: 19,017 banks
Control Variables & Statistical Model

- Income per capita (BEA)
- Human capital per capita (Schooling)
- Unemployment rate (BLS)

- Fixed-effects pooled panel model
Hypotheses and Summary of Results

(Red 5% significance, Green 10% significance)

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>$H_a$</th>
<th>Metro</th>
<th>Micro</th>
<th>Rural</th>
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<td><strong>Economic Activity or Market ‘thickness’</strong></td>
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<td>Births/Number of SMEs</td>
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<td>Deaths/Number of SMEs</td>
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<td>Number of SME/Population</td>
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<td>Assets/SME</td>
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<td><strong>Bank Market Concentration</strong></td>
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<td>Number of banks/Number of SMEs</td>
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<td>Assets/Population</td>
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<td>Deposits/Population</td>
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<td><strong>Bank Loan Performance Factors</strong></td>
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<td>Charge-Off Index</td>
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<td>Performance Index</td>
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Table 2: Hypotheses
Conclusions: Market Thickness

- Concentration of start-ups and small businesses have a significant positive effect on lending in metro counties
  - But small business activity has insignificant coefficients for the micro and rural counties
- Entrepreneurial information can be better leveraged by lenders in urban settings
Conclusions: Asset/Deposit & Market Thickness

- For metro and rural counties, banks' assets per capita and short-term liabilities do not affect banks' propensity to lend in these counties.

- Assets per SME have positive and strongly significant effects on SME lending in all three types of counties:
  - Concentrations of assets per firm bolster lending.
  - Banks are better able to diversify portfolios and offset losses.
Conclusions: Bank Market Concentration

- The number of banks variable is positive and statistically significant in micro and rural counties.
- Firms in markets with a less competitive banking environment, fewer potential entrants, or more existing SMEs face greater difficulty gaining access to credit than where banking is more competitive.
  - Especially significant in sparser micro and rural markets.
Conclusions: Bank Performance

- The charge-off index is significant and negative for metro counties, but insignificant for micro and rural.
  - Charge-offs deter SME lending in urban markets where banks have wider lending options, but micro & rural banks constrained.

- The performance index is positive and significant in metro and rural counties.
  - Better-performing banks lend more.
Future Research

- Incorporate lending into regional endogenous growth model through entrepreneurship
- Test the spatial spillovers that apparently occur in higher-information contexts, such as those exhibited by metropolitan areas
- Use commuter data from the Census to better identify cross-county channels of contact and information flows
Thank you!