Motivation

• Rising fintech market shares in the residential mortgage market
• Fintech Quicken Loans is the largest US home mortgage lender
• Fuster et al. (2019) use similar data, plotted for comparison

Methodology

Data
• Home Mortgage Disclosure Act (HMDA): US mortgages including lender information
• FDIC Summary of Deposit: Geolocated bank branches of all FDIC-insured banks in the US
• Definition of fintech lenders: Buchak et al. (2018), Fuster et al. (2019), Jagtiani et al. (2021)

Baseline

\[ \Delta \log (\text{Bank Branches}) = \beta_1 \times \Delta \text{Fintech Share}_i + \beta_2 \times \Delta \text{Controls}_i + \epsilon_i \]

• Dependent variable: Change in Log Number of Bank Branches in county \( i \) (2010-2017)
• Main independent variable: Change in Fintech Share of county \( i \) (2010-2017)
• Controls: Change in demographic & housing market characteristics in county \( i \) (2010-2017)

Identification

\[ \text{SCI}_i = \beta_1 \times \log (\text{Dist}_i) + \beta_2 \times \text{State}_i + \beta_3 \times \text{Border}_i + \beta_4 \times \text{Metro}_i + \beta_5 \times \text{CZ}_i + \epsilon_i \]

• IV for Fintech Share: Purged Social Connectedness Index (SCI) of county \( i \) to Wayne County (Detroit), headquarters of Quicken Loans, the biggest fintech lender in the market
• Idea: Larger connectedness causes higher fintech lending shares but no branch closures
• SCI purged by geographic factors (distance, same state, common border, same commuting zone, metro-dummy) to isolate pure social connectedness, Residuals as IV in 2SLS

Results

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>( \Delta \log (\text{Bank Branches}) )</th>
<th>( \Delta \text{Fintech Share}_i )</th>
<th>( \Delta \text{Controls}_i )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline OLS</td>
<td>0.158** (0.070)</td>
<td>-0.554** (0.075)</td>
<td>-0.204** (0.362)</td>
</tr>
<tr>
<td>2SLS</td>
<td>0.215** (0.032)</td>
<td>-0.484** (0.034)</td>
<td></td>
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</table>

Baseline

• At the mean, the fintech share rises by 7.7%, associated with a loss of 1% of bank branches
• Reverse causality: IV supports crowding-out of branches instead of stepping-in of fintechs

Further Results

• Significantly lower deposits and less branches from small banks (<10bn USD assets)
• Share of alternative to traditional financial service providers increases
• Counties lack access to basic financial services, people migrate to harmful alternative services

Robustness

• Panel data estimation (OLS/PPML) with a lag of 2 years, allowing banks to adjust their network
• Spatial Durbin Model on census tract-level, allowing for endogenous spatial spillovers
• IV results robust to alternative explanations (e.g. effect of big cities, SCI proxy for social capital)

Conclusion

• Negative relationship between increase of fintech shares and the change in bank branches
• Shift to fintech contributes to the drop in local access to finance by crowding out bank branches

References


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