Government Loan Guarantees in a Crisis: Bank Protections from Firm Safety Nets

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Motivation: Unprecedented Credit Support Program

- Private capital with federal backstop.
- PPP accounted for nearly all new lending.
- Outsized CBO participation.
- Research questions:
  - What drove community banks to participate?
    - Funding capacity vs. capital preservation
  - What determined intensity of participation?
    - Profitability vs. risk-aversion
  - Spillover effects to bank-lending.
    - Crowding-out of private capital, risk-taking.
Preview of Results

• Participating banks were:
  • Larger, more profitable, relatively less capitalized.

• PPP originations (“intensity”) increased with:
  • Size, liquidity, C&I exposure, COVID-affected employment share.

• PPP reduced profitability but offset a credit crunch
  • Federal intervention preempted GFC-style contraction of loan books.
Requirements for PPP participation

• Cheap, stable funding sources
  • 1% interest rate and sliding fee scale.
  • Fees recognized over life of loan or upon forgiveness.

• Ample capital buffer space
  • Zero risk-based capital weight but affected leverage ratios.

PPP Liquidity Facility (PPPLF) could ease these burdens.
Model Structure

- Key bank decisions
  - Whether and how much to participate.
- Predictor of demand-led intensity
  - COVID-affected employment in bank’s local market.
  - Weighted by deposit share.
- Bank outcomes
  - NIM, Change in NIM from 2019, growth in C&I, non-PPP C&I, and CRE loans.
Funding capacity, risk aversion determined PPP take-up

Table: Effect of bank financials on probability and intensity of participation in the PPP

<table>
<thead>
<tr>
<th>Participation</th>
<th>Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>+</td>
</tr>
<tr>
<td>Liquid Assets to Assets</td>
<td>+</td>
</tr>
<tr>
<td>ROA</td>
<td>+</td>
</tr>
<tr>
<td>Leverage Ratio</td>
<td>-</td>
</tr>
<tr>
<td>CI to assets</td>
<td>+</td>
</tr>
<tr>
<td>Other controls</td>
<td>Other controls</td>
</tr>
</tbody>
</table>

Other controls

Size: +  
Liquid Assets to Assets: +  
ROA: +  
Leverage Ratio: -  
CI to assets: +  
COVID-affected employment share: +
PPP expanded lending, but compressed margins

Table: Effect of PPP share of total loans on bank outcomes

<table>
<thead>
<tr>
<th></th>
<th>ΔNIM (bps.)</th>
<th>C&amp;I Growth (%)</th>
<th>Non-PPP C&amp;I Growth (%)</th>
<th>CRE Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>For the average bank</td>
<td>-36.6</td>
<td>86.7</td>
<td>8.7</td>
<td>3.0</td>
</tr>
<tr>
<td>95% prob. interval</td>
<td>[-52.9, -24.4]</td>
<td>[77.6, 95.2]</td>
<td>[3.2, 14]</td>
<td>[-2.2, 9.1]</td>
</tr>
</tbody>
</table>

Estimates for the average participant are calculated based on a mean PPP loan share level of 8.5%.
The PPP Averted a Credit Crunch

Counterfactual Mean = -77.94
Non-participant Mean = 9.5
Participant Mean = 91.28
Conclusion

• Banks driven by risk-aversion, rather than profitability to engage in PPP
  • Likely protected existing loans, revenue source during economic uncertainty.
  • Full guarantee an important parameter of the program.

• Pre-pandemic balance sheet characteristics determined participation
  • Larger, more liquid and profitable banks participated, and with greater intensity.

• The PPP averted a credit crunch
  • Effective fiscal policy measure for future crises.
  • Net benefits depend on state of banking industry and source of economic shock.
Net Interest Margins for PPP participants

- High PPP Exposure
- Low PPP Exposure

Paycheck Protection Program Introduced
Loan Growth Rates at Community Banks