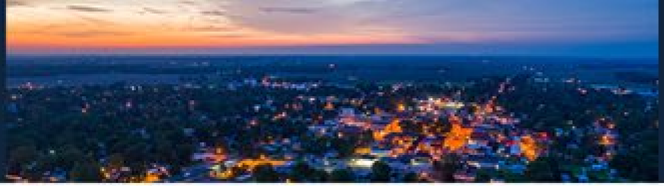


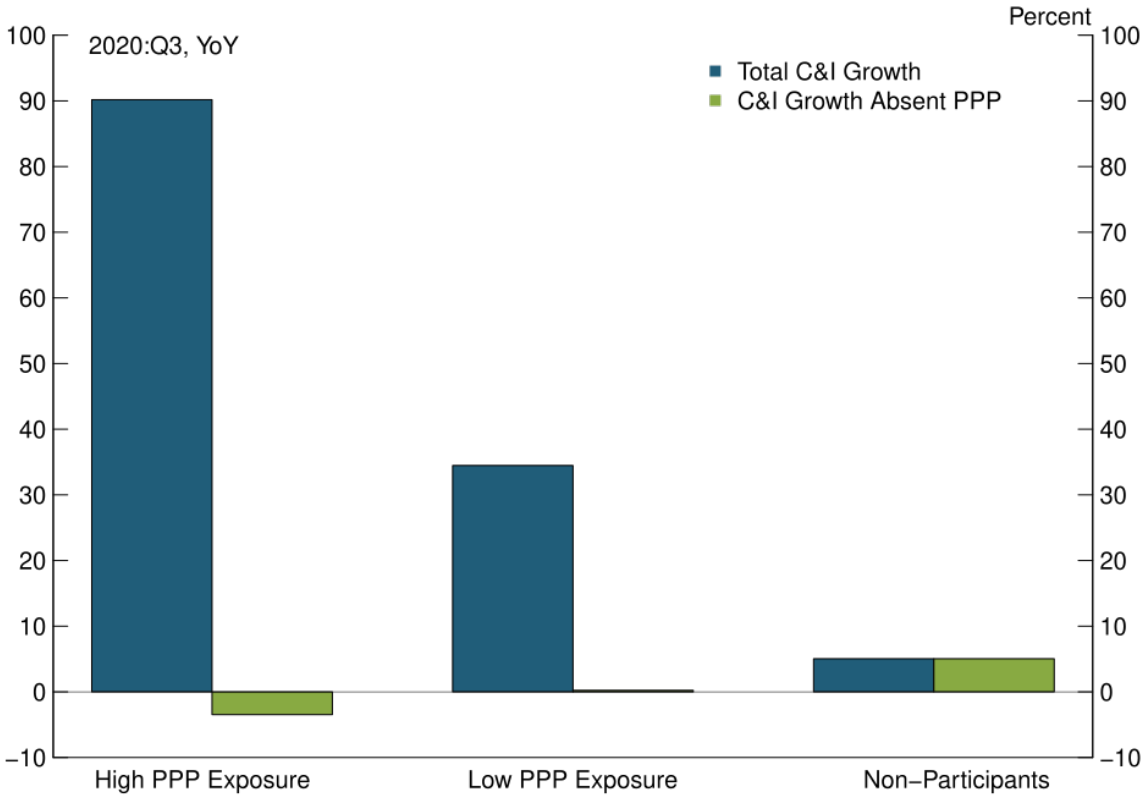
Government Loan Guarantees in a Crisis: Bank Protections from Firm Safety Nets

Blake Marsh and Padma Sharma

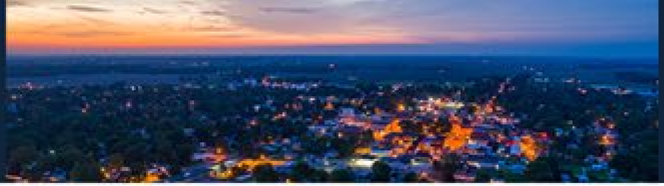
Federal Reserve Bank of Kansas City

September 28, 2021

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.



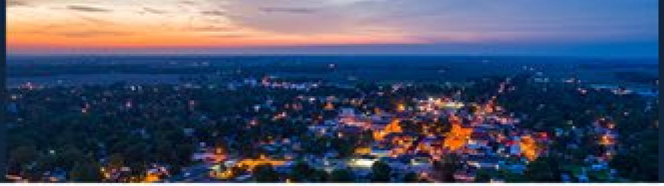
Preview of Results

- 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.

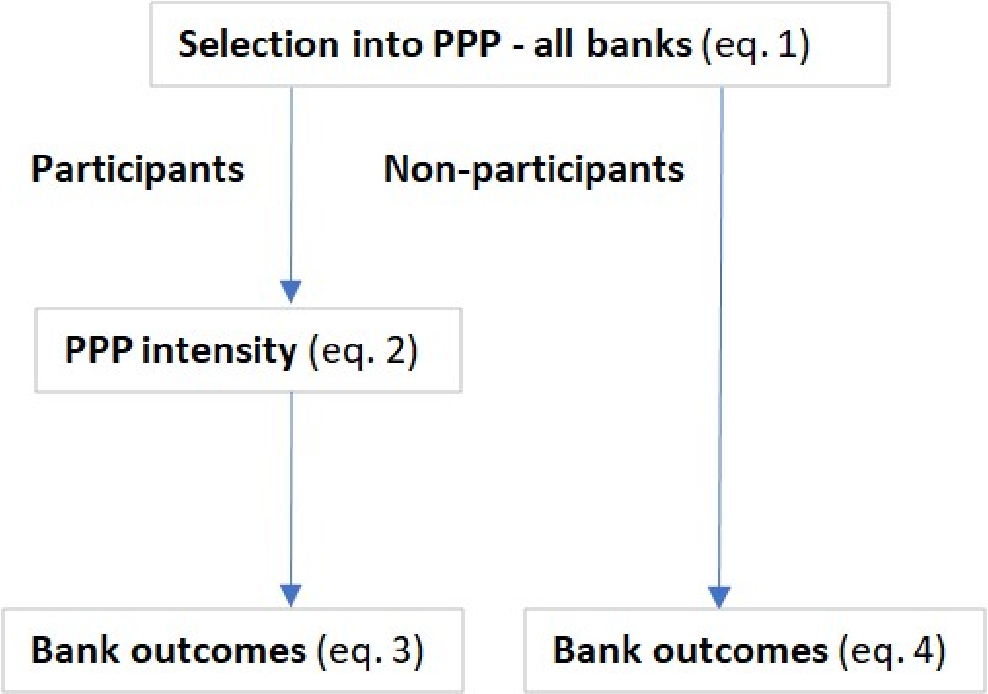
Requirements for PPP participation

- 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.

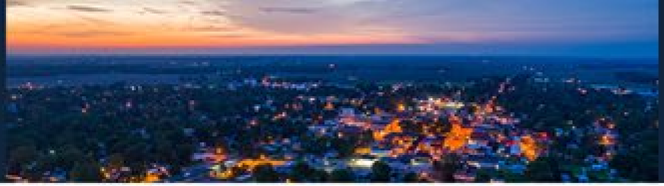
PPP Liquidity Facility (PPPLF) could ease these burdens.



Model Structure



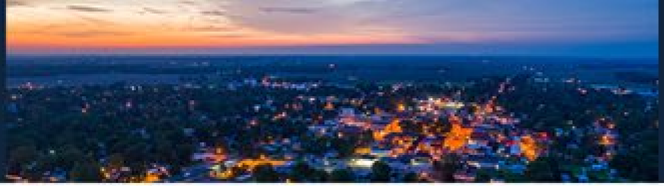
- Key bank decisions
  - Whether and how much to participate.
- Predictor of demand-led intensity
  - COVID-affected employment in bank’s local market.
  - Weighted by deposit share.
- Bank outcomes
  - NIM, Change in NIM from 2019, growth in C&I, non-PPP C&I, and CRE loans.



Funding capacity, risk aversion determined PPP take-up

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

Participation		Intensity	
Size	+	Size	+
Liquid Assets to Assets	+	Liquid Assets to Assets	+
ROA	+	ROA	+
Leverage Ratio	-	Leverage Ratio	-
CI to assets	+	CI to assets	+
		COVID-affected employment share	+
Other controls		*Other controls*	



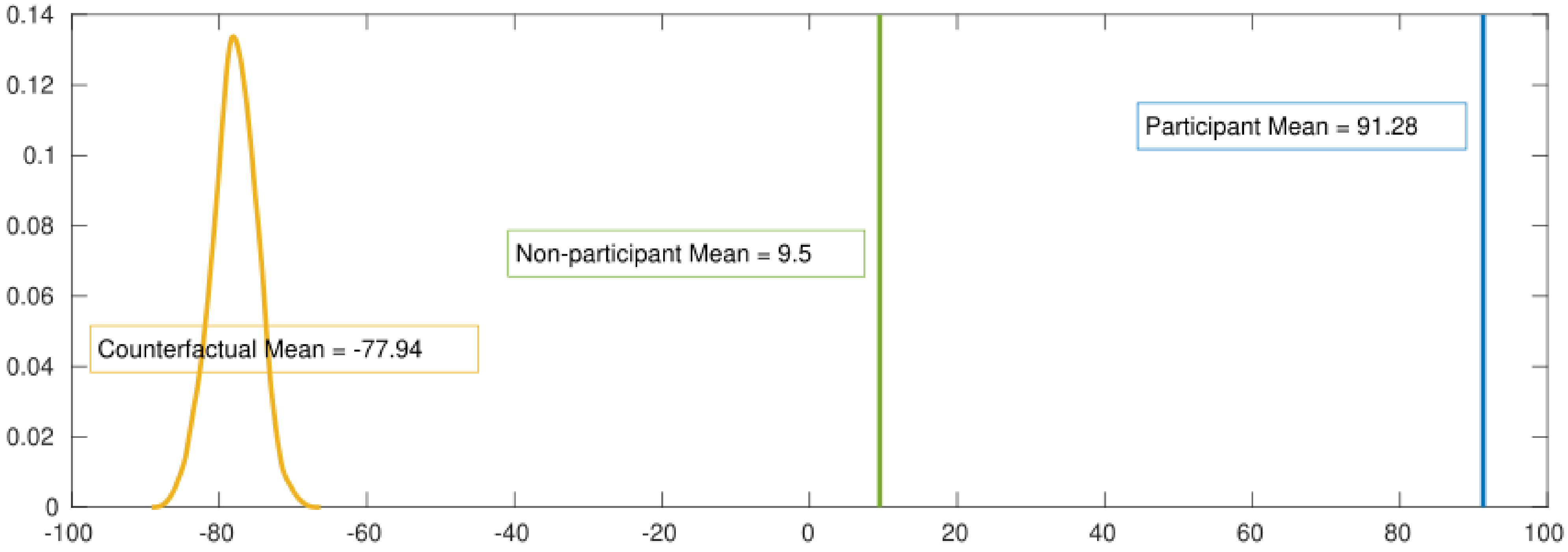
PPP expanded lending, but compressed margins

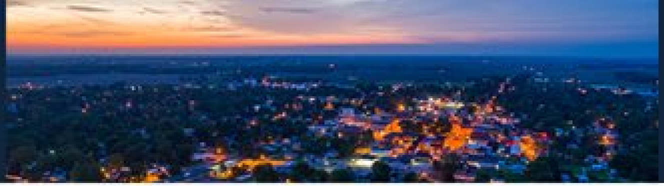
Table: Effect of PPP share of total loans on bank outcomes

	ΔNIM (bps.)	C&I Growth (%)	Non-PPP C&I Growth (%)	CRE Growth (%)
For the average bank	-36.6	86.7	8.7	3.0
95% prob. interval	[-52.9, -24.4]	[77.6, 95.2]	[3.2, 14]	[-2.2, 9.1]

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

The PPP Averted a Credit Crunch

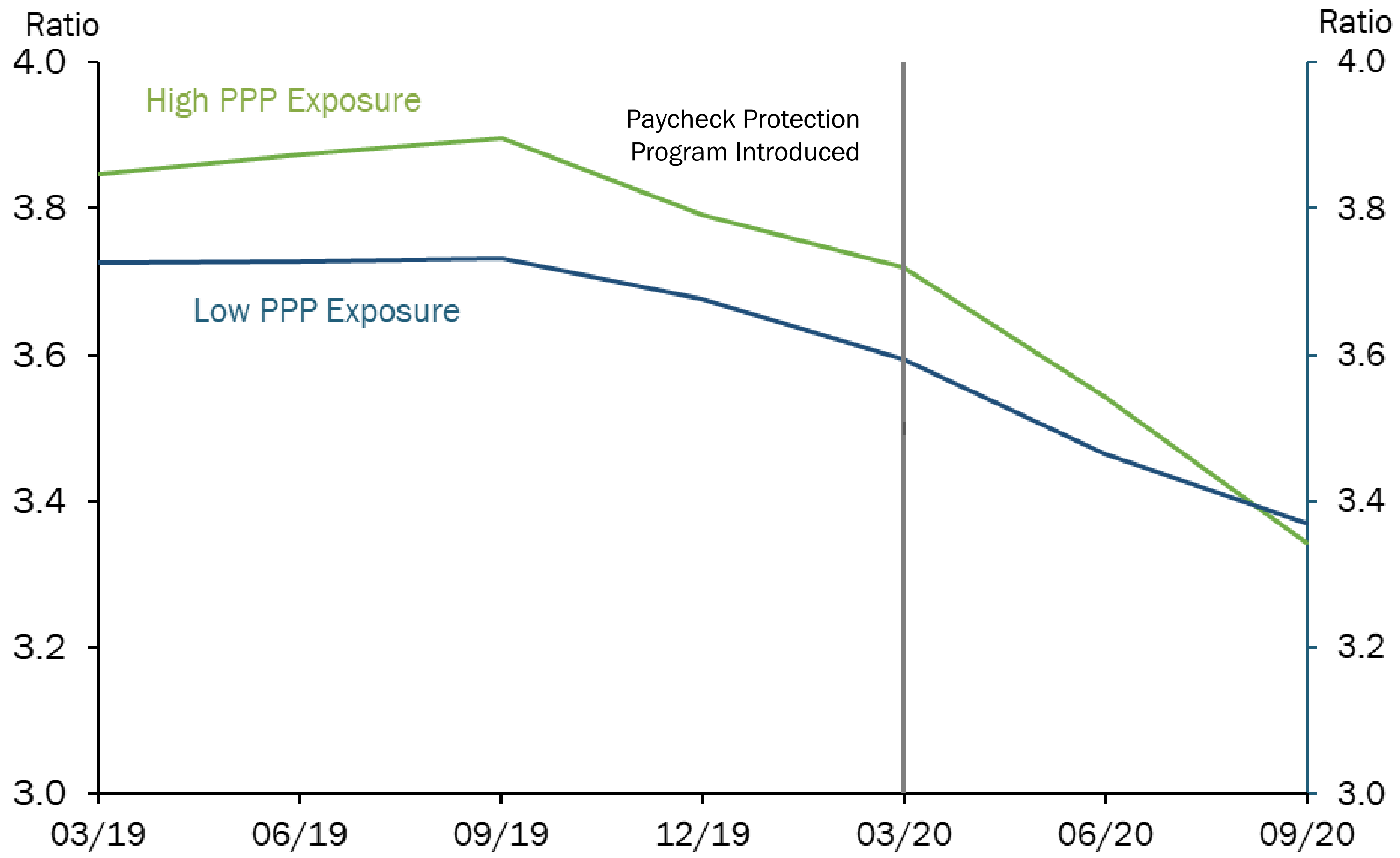




Conclusion

- 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



Loan Growth Rates at Community Banks