Why Banks Matter: Measuring the Impact of Banks on Missouri’s Economy

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Introduction

- Banks are an efficient way to bring borrowers and lenders together
- what would happen to Missouri communities if banks did not exist?
How important are community banks?

1. purpose of this study is to quantify the impact that Missouri banks have on the state’s economy
2. GDP is the measure of the impact
3. suppose community banks stopped lending for a year
How to compute the impact

Use a general equilibrium model

- compute a control path
- compute a treatment path
Main results

Using members of MO Banker’s Assn

- loans that expand production capabilities not less than $10.8 billion a year
- discounted sum of these differences in real GDP is $170.2 billion.
- more than 130,000 jobs
- discounted sum of lost state revenues throughout the 25 year period is $6.5 billion
Banking conditions
Banking conditions
Banking conditions

Two main conclusions

- MO banks were less sensitive to the Great Recession than the national average
- MO banks are shrinking relative to the national average
The Model

- Basic Ak model
- Growth is endogenous
- Includes the basic consumption-saving decision
The calibration

- The avg annual growth rate is known—1.04%.
- Given the marginal income tax rate and the discount rate:
  - $\beta = 0.96; \tau = 0.43224$
  - Solve for $A = 0.863$
Treatment

Law of motion for loans outstanding

\[ L_t = L_{t-1} + NL_t - RL_t \]

- Call Report data do not provide \( NL \) and \( RL \)
Law of motion for loans outstanding

\[ L_t = L_{t-1} + NL_t - RL_t \]

- Call Report data do not provide \( NL \) and \( RL \)
- Use weighted average maturity of commercial and industrial loans (Survey of Terms of Business Loans)
- compute repayment fraction
Treatment

- Avg maturity is 818 days for C&I loans
- Assume uniform repayment thru year
- 44.6% of C&I loans repaid
- Avg maturity for Ag Production loans is one year
- With $RL$, one can compute $NL$
Treatment

- allocate loans for banks with locations in MO and "other states"
- assume $NL$ are evenly distributed across locations
Treatment

- Avg volume of $NL$ in MO is $10.8$ billion
- note if MO were a "typical state" avg $NL$ equals $42$ billion
Treatment

- What if MO Bankers Assn member banks did make any new C&I and Ag production loans for one year
- Assume one-time loss of avg volume of loans
Quantitative Impact

![Graph showing Treatment Effect Loss MO GDP from 2015 to 2040]
Summary

- MO banking industry was less sensitive to Great Recession
- MO banking industry is shrinking
- The impact on the MO economy is quantitatively large
Summary

- PV of lost real GDP in MO is $170.2 billion
- 2016 real GDP is approx $260 billion
- At median salary, this is more than 130,000 jobs
- Discounted sum of lost state revenues throughout the 25 year period is $6.5 billion