Monetary Policy and Defaults in the US

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Motivation of the paper

Central banks and the output/inflation trade-off
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Recently, discussion of an output/“financial stability” trade-off
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Existing papers find a risk taking effect in partial equilibrium
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Central banks and the output/inflation trade-off

Recently, discussion of an output/“financial stability” trade-off

Existing papers find a risk taking effect in partial equilibrium

What are the general equilibrium implications?
Research question

Use US aggregate delinquency rates on

- business loans
- residential mortgages
- consumer credit

1987Q1 - 2007Q2
Theoretically ambiguous

Risk-taking effects push aggregate defaults up

G.E. effects on profits and income push aggregate defaults down
A simple model of defaults

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A simple model of defaults

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Key identification challenge

Endogeneity of the federal funds rate
Monetary shocks

What we need: variations of fed funds rate orthogonal to the FED’s expectations of future defaults
Monetary shocks

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Starting point: various estimates of monetary shocks
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Residual endogeneity? Granger causality tests
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Obtain adjusted monetary shocks
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Combine these estimates into a generalized instrumental variable estimator
Empirical strategy (continues)

\[ \Delta x_t = \alpha + \sum_{i=0}^{p_s} \beta_i s_{t-i} + \sum_{i=1}^{p_x} \gamma_i \Delta x_{t-i} + \epsilon_t \]

\[ s_t = \text{true, unobserved monetary shocks} \]
Empirical strategy (continues)

\[
\Delta x_t = \alpha + \sum_{i=0}^{p_s} \beta_i s_{t-i} + \sum_{i=1}^{p_x} \gamma_i \Delta x_{t-i} + \epsilon_t
\]

\(s_t = \text{true, unobserved monetary shocks}\)

\(\tilde{s}_{1,t} = \text{estimated shocks, } \tilde{s}_{1,t} = s_t + u_{1,t}\)

Instrument \(\tilde{s}_{1,t}\) with \(\tilde{s}_{2,t}, \tilde{s}_{3,t}, \tilde{s}_{4,t}, \tilde{s}_{5,t}\)
IRFs

Real GDP

Fed funds

GDP deflator

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IRFs

Delinquency on business loans

Delinquency on residential mortgages

Delinquency on consumer credit

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Robustness checks

**Business loans**

- Basis points vs. quarters
- Point estimate and 95% Confidence interval

**Residential mortgages**

- Basis points vs. quarters
- Point estimate and 95% Confidence interval

**Consumer credit**

- Basis points vs. quarters
- Point estimate and 95% Confidence interval

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Robustness checks

Delinquency on business loans

Delinquency on residential mortgages

Delinquency on consumer credit

Confidence interval (all)
Confidence interval (restricted)
Median (all)
Median (restricted)

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Robustness checks

Business loans

Residential mortgages

Consumer credit

VAR
BVAR
Factor model
Romer and Romer
Futures contracts
Conclusions

After a monetary expansion, aggregate delinquency rates do not seem to increase
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After a monetary expansion, aggregate delinquency rates do not seem to increase.

Interpretations:

1. risk taking does not matter in aggregate terms
2. it does matter, but delinquency rates fail to signal it