Monetary Policy and Shadow-Bank Lending: This is not your Grandparents' Bank-Lending Channel

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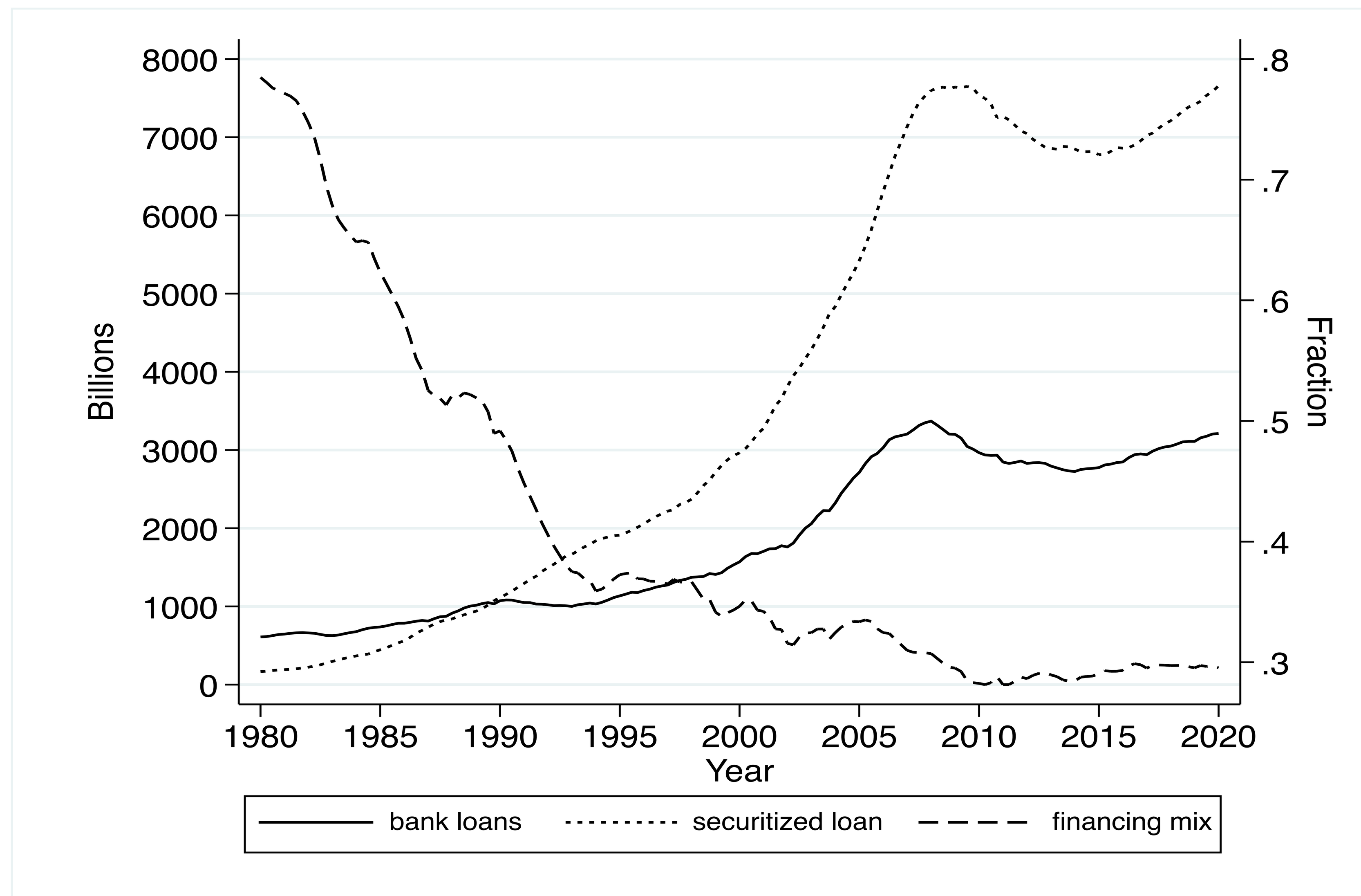
Figure 1: The Composition of Residential Mortgages



Note: The figure plots bank and securitized residential mortgages (loans) (left axis) and the financing mix (right axis). Bank and securitized loans are in billions of dollars. The financing mix variable is a ratio.

Introduction

- Over the last 40 years, securitized loans moved from being a small fraction of residential mortgages (less than 30%) to becoming a dominant source of financing.
- We investigate whether monetary policy affects mortgage loan supply in the U.S. financial system and whether it induces shifts in the supply of credit between bank and non-bank (shadow-bank) intermediaries.
- We propose and provide evidence on the existence of a loan-flow-supply channel of monetary policy transmission.

Main Findings

- During FOMC (Federal Open Market Committee) tightening cycles, monetary policy leads to a slowdown in the pace of mortgage loan securitization relative to bank held mortgages.
- This finding is inconsistent with the Bank Capital and Money Market Funding effects but **IS** consistent with a Securitization Pipeline effect.
- This suggests that contractionary policy can indeed reduce the supply of securitized lending.

Economic Framework

- According to the shadow-bank lending channel, the direct effects of monetary policy on interest rates are amplified by endogenous changes in the external finance premium by reducing the supply of intermediated credit to bank-dependent borrowers.
- For a financial holding company there are three potential channels at work:
  - Bank Capital Channel – An increase in the external finance premium due to a monetary contraction leads to a reduction in equity/capital for the bank holding company. As a result, the bank holding company increases loan securitization as a buffer.
  - Securitization Pipeline Channel – An increase in the external finance premium due to a monetary contraction leads to a reduction in risk capital for investment banks. As a result, investment banks decrease the flow of securitization underwriting.
  - Money Market Funding Channel – An increase in market interest rates due to a monetary contraction leads to a shift away from bank deposits and into money market instruments. As a result, investment banks increase securitization underwriting and/or the bank holding company increase lending.

Empirical Approach

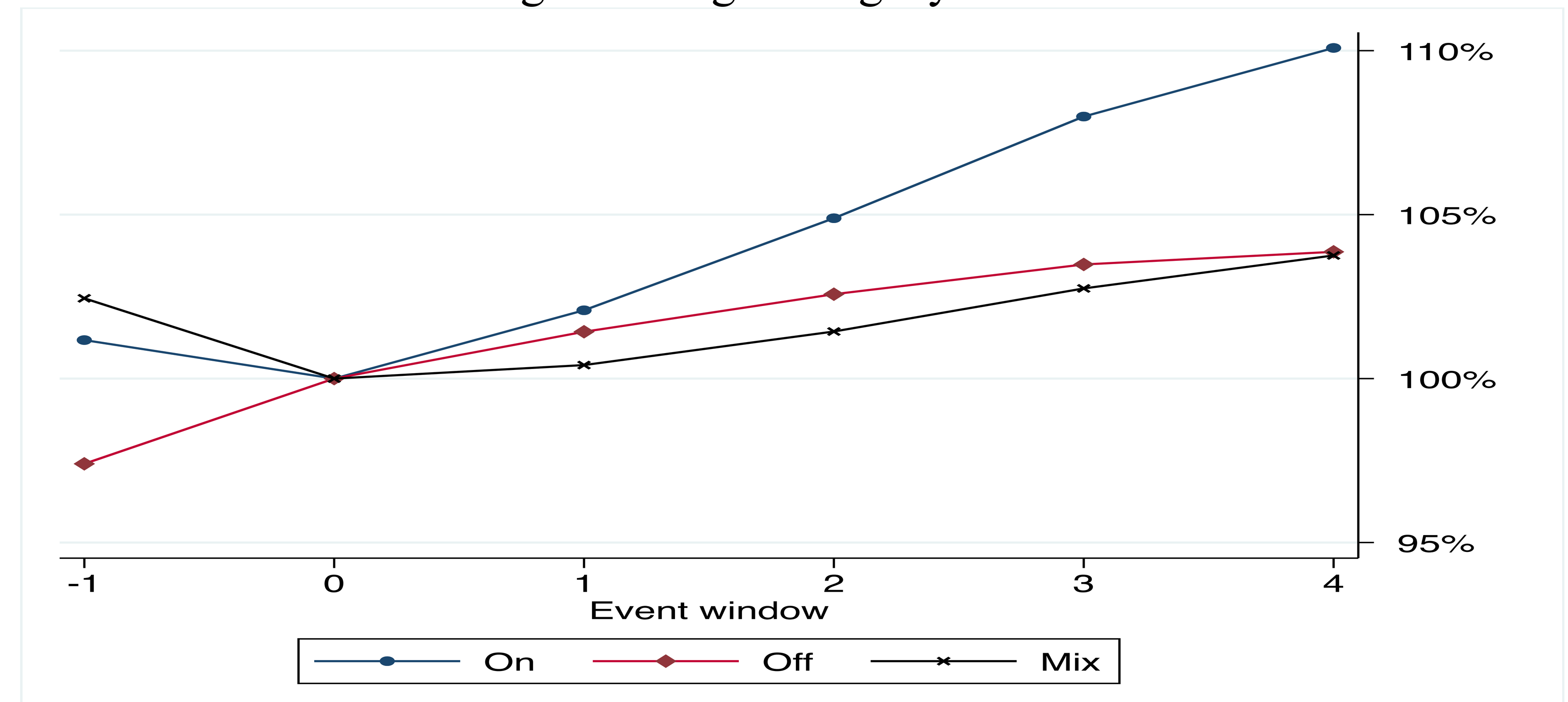
- We conduct a simple experiment by comparing the behavior of bank loan and securitized bank loan volume before and after a change in the stance of monetary policy.
- If monetary policy is to impact aggregate demand in part through a distinct shadow-bank lending channel:
  1. Bank loans and securitized bank loans must be imperfect substitutes as assets for financial holding companies.
  2. Bank loans and securitized bank loans must also be imperfect substitutes as borrower liabilities.
- If there is a distinct shadow-bank lending channel, then the optimal ratio of bank loans held by banks to the sum of bank loans held by banks and non-banks (the shadow-bank financing ratio) will vary with the stance of monetary policy

Data

- The residential mortgage loan data is from the Financial Accounts of the United States published by the Board of Governors of the Federal Reserve System.
  - Sample Period: Q2 1989 to Q2 2020
    - Bank mortgages are the sum of one-to-four family residential mortgages held by U.S.-chartered depository institutions, credit unions, and foreign banking offices in the U.S.
    - Shadow-bank mortgages are the sum of one-to-four family residential mortgages held by government-sponsored enterprises, agency and GSE-backed mortgages pools, ABS issuers, and finance companies.
    - The financing mix is the ratio of bank mortgages divided by the sum of bank and shadow-bank mortgages and proxies for the optimal shadow-bank financing ratio.

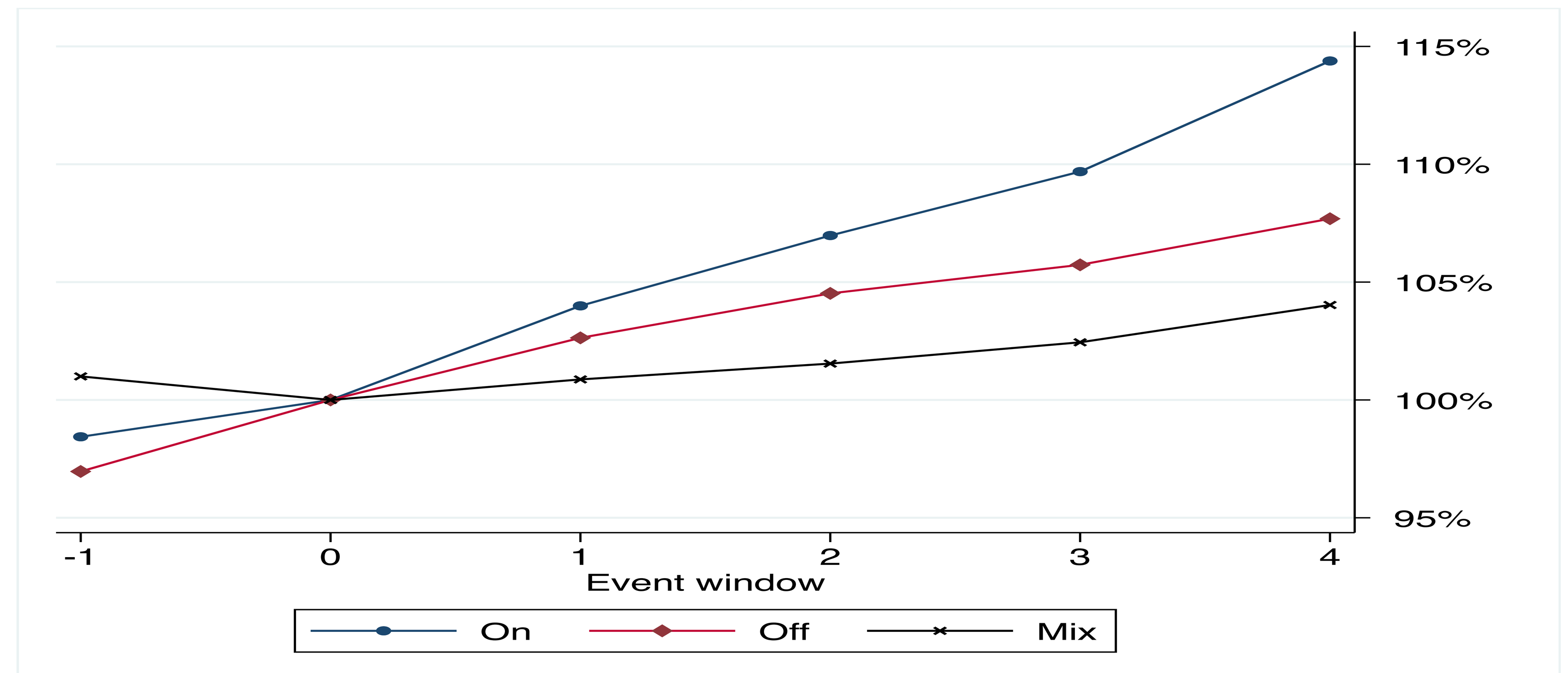
Results

Figure 2: Tightening Cycle 1



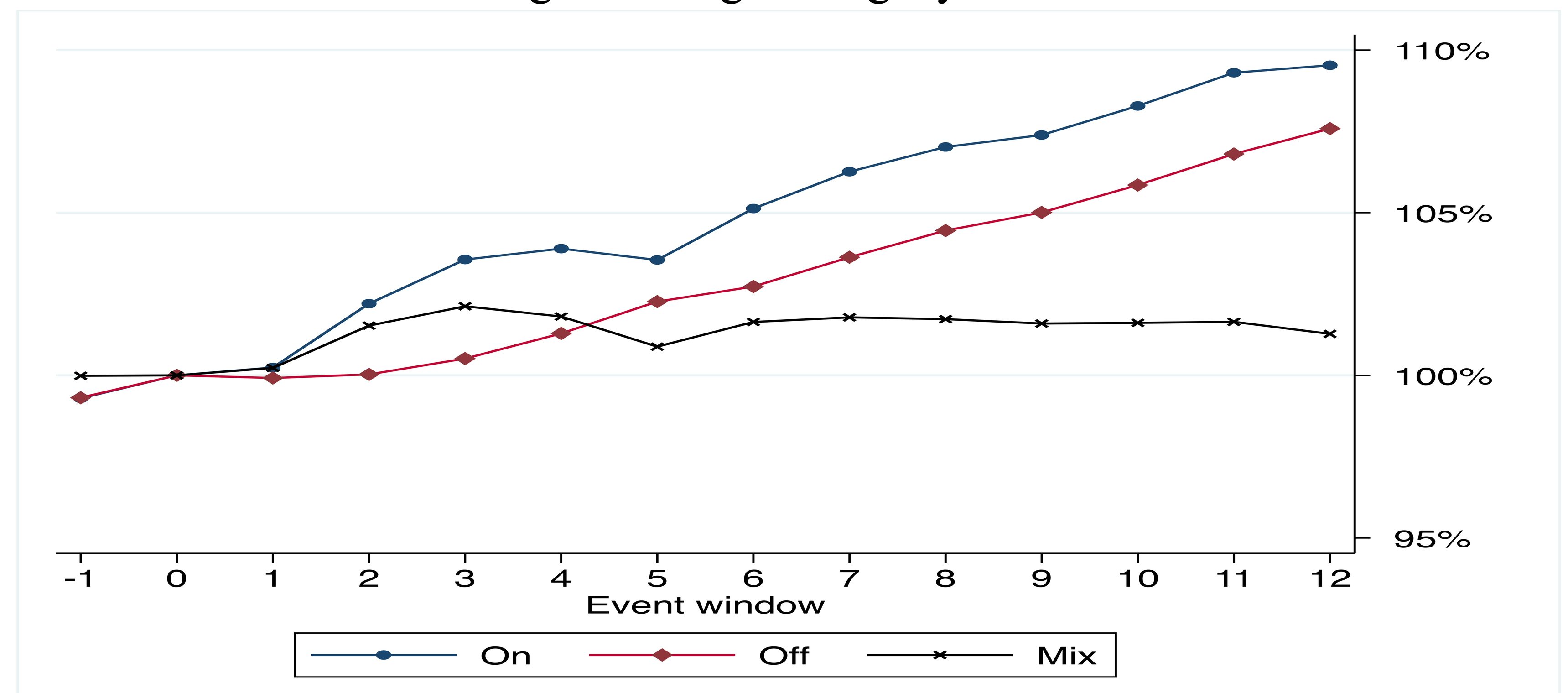
Note: This tightening cycle ran from Q1 1994 to Q1 1995.

Figure 3: Tightening Cycle 2



Note: This tightening cycle ran from Q2 1999 to Q2 2000.

Figure 4: Tightening Cycle 4



Note: The figures plot the real index change in the three observable variables during FOMC rate hikes. We present the three rate hikes that demonstrate this slowdown in pace of getting-stuff-off-the-balance-sheet. The tightening cycle in Figure 4 runs from Q4 2015 to Q4 2018. The omitted tightening cycle ran from Q2 2004 to Q2 2006.

Summary of Findings

- In three out of the four cycles, when the Federal Reserve is raising the funds rate, one sees that the pace of getting-stuff-off-the-balance sheet slows down.
- What we observe is counterintuitive if you associate funds rate hikes with positive monetary policy "shocks."
- Moreover, this is inconsistent with the Bank Capital Channel and Money Market Funding Channel effects but **IS** consistent with the Securitization Pipeline effect.
- One possibility is that the Securitization Pipeline effect dominates the other two channels.

Conclusion/Future Work

- During FOMC tightening cycles, we find evidence that monetary policy leads to a slowdown in the pace of mortgage loan securitization relative to bank held mortgages.
- This suggests that contractionary policy can indeed reduce the supply of securitized lending.
- Note however that our findings don't tell us whether the increase in the fraction of bank held mortgages during tightenings is being driven by the Securitization Pipeline shriveling up or banks deciding to keep more mortgages on their balance sheet.
- Future work will take a closer look at bank assets and liabilities by instrument to see what patterns fit which story.