



EUROPEAN CENTRAL BANK

EUROSYSTEM

# Shadow Banks and the Dynamic Effects of Monetary Policy on Small Business Lending

by Manasa Gopal, Andres Sarto,

Dominik Supera and Olivier Wang

**Discussion by Angela Maddaloni (ECB)\***

**ECB-FRBNY WORKSHOP ON NON-  
BANK FINANCIAL INSTITUTIONS**

**21 June 2024**

- Any views expressed are only the speaker's own and should not necessarily be regarded as views of the ECB or the Eurosystem.



## What the paper does

- The study analyses the transmission of monetary policy through the banks' balance sheet, *the bank lending channel*, using three different measures of sensitivity to interest rates and shows how monetary policy affects bank lending at different horizons
- Results suggest that monetary policy induces a shift towards non-bank lending for small business loans at longer horizons, more than three years

## High level comments

- issues and contribution of the analysis
- monetary policy and structural changes in the financial sector

## Empirical strategy

- measures of impact of interest rate changes
- aggregation at county levels, demand and supply of loans
- number and volume of loans

- Is this a paper about monetary policy transmission or about a *structural* substitution between banks and non-banks for small business lending?
  - changes in interest rates arising from monetary policy induce a shock to the supply of bank loans. This effect depends on the time horizons and works through different channels, deposits, profitability – **there isn't a unique bank lending channel**
- The shock to bank lending **induces** a change in the share of non-bank loans at county level. What are the consequences of this change? What do we know about these intermediaries?
  - business model
  - balance sheet capacity
  - geographical connotation

### Monetary policy and *structural* changes in the financial sector

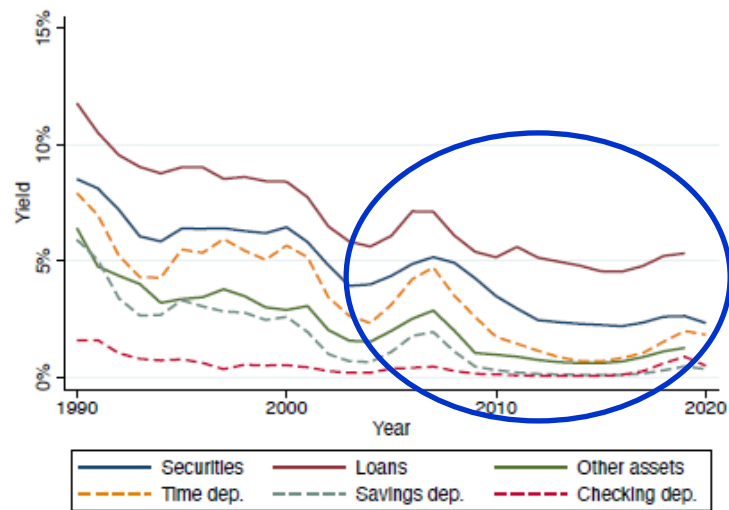
- interest rate changes affect balance sheet capacity of banks, therefore the supply of loans (ample evidence on this, all the literature on bank lending channel, Bernanke and Gertler, 1995 and following)
- other factors: regulation (Gopal and Schnabl, 2022), digital transformation, AI (relevant for SBL?)

### Monetary policy affects the investment decisions of other financial intermediaries, their balance sheet capacity and composition

- how does monetary policy transmits through non-bank intermediaries?

- Three measures for the impact of monetary policy at different horizons
  - $\beta$  of deposits and time deposit channels already analysed in previous literature (Drechsler, Saviv and Schnabl, 2017, Supera, 2022)
  - $\Delta\text{NIM}$  is a new, original measure, it measures the sensitivity of banks' profitability to interest rates changes
- $\Delta\text{NIM}$  is measuring changes in banks' profitability
  - are all these changes due to monetary policy? It depends on the asset/liability composition and the pass-through
  - historical balance sheet weights and national yields. Weights are very important because yields did not change much during the time of the analysis (Figure 2)
  - cumulative exposure implicitly assumes that impact is symmetric for negative and positive interest rates changes

- County level analysis is from 2006 to 2016



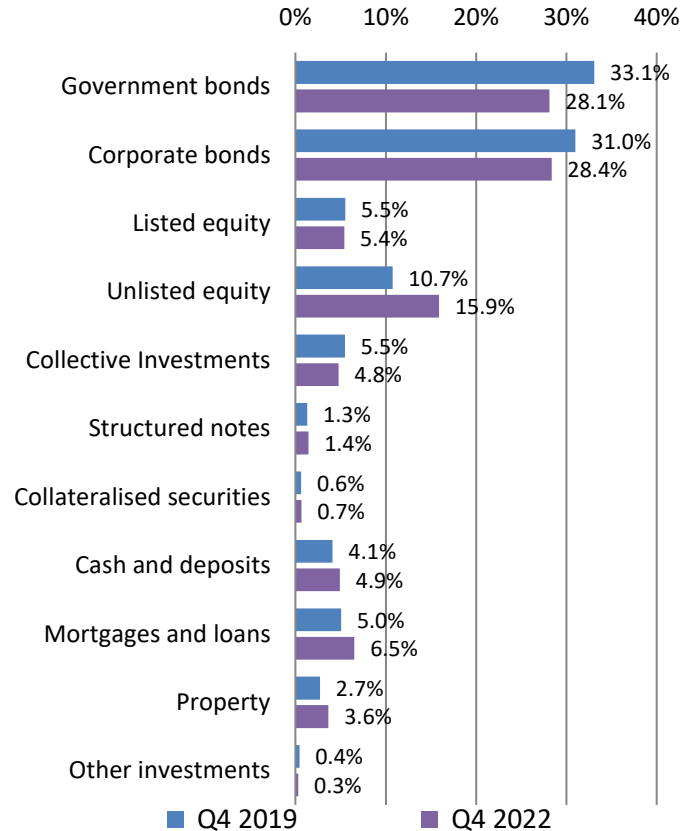
**Figure 2:** Average yields on different bank assets and liabilities, 1990-2020. Source: Call Reports.

Bank level measures of exposures to interest rates are aggregated at county levels. There are implicit assumptions about the demand and supply of loans for banks and non-banks

- County-level exposures act as net demand shocks towards non-banks. This demand is met by a corresponding supply from non-banks
  - total demand for small business loans does not change
  - demand not met by banks is met by non-bank supply
  - supply of non-banks is not affected by changes in monetary policy (changes in their balance sheet capacity?)
- Other important factors
  - competition among banks
  - geographical connotation of banks/non-banks. Is it a local market for both?
  - regulation



- The composition of assets of European insurances changes over time, partly due to changes in interest rates
- Same for liabilities (depending for example on the share of guaranteed interest rates)



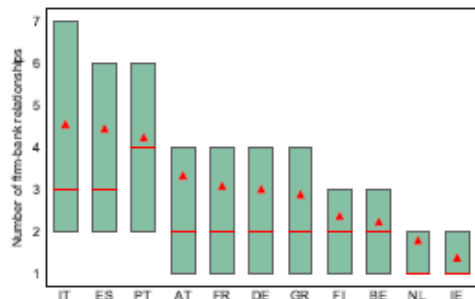
Source: EIOPA June 2023 FSR

Bank level measures of exposures to interest rates are aggregated at county levels. The analysis of non-bank lending relies on data on **number of loans**

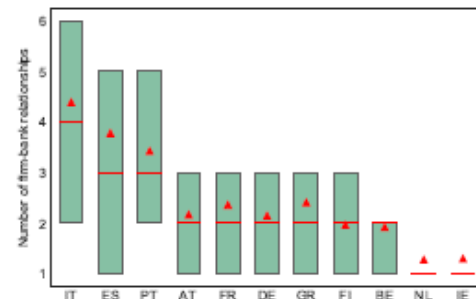
- Monetary policy affects the quantity of credit, i.e. the volume of loans. Is there a linear relationship between number of loans and volume?
- CRA data are used to confirm the validity of UCC data in terms of proxy for the volume of loans (see Gopal and Schnabl, 2022)
  - cover around 35% of small business bank lending
  - only for large banks, less relevant for small business lending
  - only for banks, non-banks may have a different business model

- The number of firm-bank relationships is different across euro area countries, **implying different number of loans per firm**
- There is heterogeneity also concerning the amount of credit from the main bank
- Large differences in lending policies between large and small banks. Assortative matching is strong in Northern Europe, where small banks are also more likely to be the main bank of both small and large firms

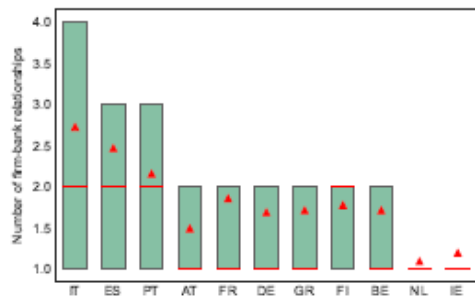
Figure 2: Number of bank relationships by firm size



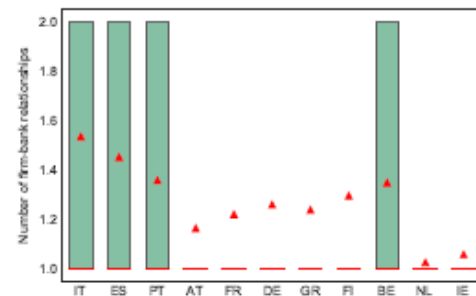
(a) Large



(b) Medium



(c) Small



(d) Micro