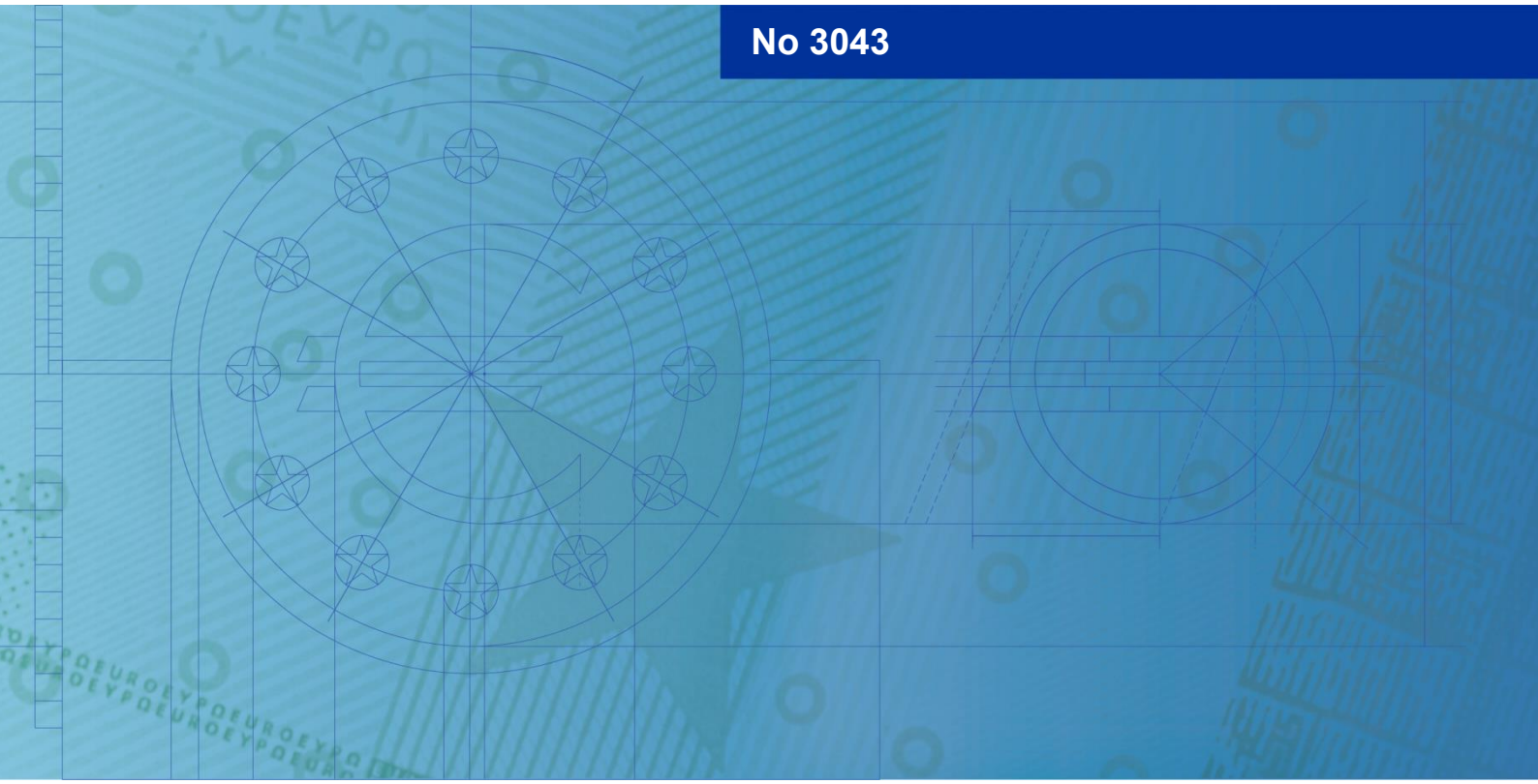
EUROPEAN CENTRAL BANK
EUROSYSTEM

Working Paper Series

Markus Behn, Stijn Claessens,
Leonardo Gambacorta, Alessio Reghezza

Macroprudential and monetary policy tightening: more than a double whammy?

No 3043



Abstract

We investigate the interaction between monetary and macroprudential policy in affecting banks' lending and risk-taking behaviour using rich euro area credit registry data and exploiting a unique setting that combined a sharp and unexpected monetary tightening with a wave of macroprudential tightening initiated before. While, for the average bank, required capital buffer increases did not significantly reduce lending additionally during the monetary tightening, for those banks that became capital-constrained lending fell by about 1.3-1.8 percentage points more for existing credit relationships and new bank-firm relationships were 2.5-4.4 percentage points less likely to be established, both relative to better-capitalized banks. In addition, such banks were more reluctant to pass higher policy interest rates on to their borrowers and took fewer risks, with a greater reduction in the LTV ratio for newly originated loans, and less reliance on risky assets, such as commercial real estate, as collateral. Our analysis shows that when calibrating monetary and macroprudential policies, it is crucial to account for the effects of policy interactions and the role of bank heterogeneity.
Keywords: bank lending, risk-taking, macroprudential policy, monetary policy
JEL classification: E5, E51, G18, G21

Non-technical summary

In this paper, we investigate the interaction between monetary and macroprudential policies using rich micro-data from AnaCredit, the euro area credit register. We combine this data with supervisory information on some 2,000 banks, including detailed financial information and bank-specific capital requirements. We explore the combined effects on banks' lending and risk-taking of a significant wave of macroprudential policy tightening in the form of higher bank capital buffer requirements and a sharp and unexpected monetary policy tightening with the steepest interest rate increase ever for the euro area.

Our findings suggest that, for the average bank, capital buffer requirement increases do not exert an additional statistically significant effect on lending after the monetary policy tightening started. However, there are statistically and economically significant contractionary effects for banks with the least available capital headroom (i.e., the distance between a bank's capital ratio and its regulatory requirement). We also show that the capital-constrained banks' relative reduction in lending carries over to a firm's overall borrowing, suggesting firms cannot easily offset reductions by borrowing from less capital-constrained banks during a double tightening episode. Furthermore, capital-constrained were more reluctant to pass higher policy rates on to their borrowers, possibly reflecting relationship-based or zombie lending. Finally, following the buffer requirement increases in a fast-rising interest rate environment, capital-constrained banks lowered their risk-taking, reducing LTV ratios for newly originated loans and requiring safer collateral.

Overall, our analysis shows that when considering the pass-through of monetary policy and calibrating the combination of monetary and macroprudential policies as to their anticipated effects on the volume, cost, and riskiness of lending, it is crucial to account for the interaction between the two policies and for bank heterogeneity.

1 Introduction

The interactions between monetary policy and macroprudential policies have become central to ongoing policy discussions and actions. Many theoretical models and empirical papers have also analyzed these interactions. A common starting point for both policy-making and analysis is the *Tinbergen principle*: when each policy tool is applied to the target for which it is considered most effective, they can independently achieve their respective goals – monetary policy targets price and economic stability, while macroprudential policies focus on financial stability. Even when the two sets of policies interact in their effects or create spillovers, the *Tinbergen principle* suggests that each policy can still adjust to ensure the achievement of its goals, leading to optimal outcomes. The interactions may require some recalibration of both policies, considering their complementary or substitutional effects on each other, similar to how monetary policy adjusts to the fiscal stance.[1] For example, if changes in the monetary stance necessary for price stability affect banks' risk taking incentives, making the overall financial system too risky, certain macroprudential policies would need to be further tightened to counterbalance the emerging risks.

In practice, first-best outcomes are rarely achievable, and both monetary and macroprudential policies have to consider their direct effects and their interactions, taking into account the imperfections that exist in the financial and economic environments. Specifically, both monetary and macroprudential policies often face constraints or function not perfectly. Individual members of a currency union with a common monetary policy have, for example, little control over their monetary conditions. Macroprudential policies may not be able to reach all parts of the financial system or of the broader economy, even though developments

[1] Example of models where in principle, if both policies worked perfectly, each could address its own goals (i.e., the *Tinbergen principle* applies) are Angelini et al. (2014); Collard et al. (2017); Carrillo et al. (2021); Van der Ghote (2021). See further IMF (2013); Laeven et al. (2022); ECB (2023) for reviews.

in parts not reached can spill over and create systemic risk. These and other imperfections may arise from financial frictions (e.g., information asymmetries), economic distortions (e.g., tax policies), incomplete policy coverage (e.g., inability to target some systemic risks), or legal and other institutional restrictions (e.g., a governance structure that keeps monetary and macroprudential policies independent when they would benefit from coordination).

Typically, this implies that as a second-best, either policy may need to partially take on the role of the other. To take an extreme example, without any macroprudential policies, monetary policy may have to account for financial stability in addition to its price stability objective, and a first best may not be achievable. The argument of Stein (2013) that monetary policy is important for financial stability as "it gets into the cracks" is an example of this, as it is in part based on an incomplete macroprudential toolkit. Similarly, the argument that macroprudential policies can at times help with achieving macroeconomic stability can be justified given limitations of monetary policy as for members in a currency union.[2] And it can be the case for small open economies, notably emerging markets, as explicitly reflected in the work at international organizations on developing an integrated framework for price, economic and financial stability incorporating monetary, macroprudential and capital flow policies (IMF, 2020; BIS, 2022). All this makes for deviations from the *Tinbergen principle*.

Limitations in our knowledge about policy effects add further complexity. Notably, while the bank lending and risk-taking channels of monetary policy have been well-documented in the empirical literature (Kashyap and Stein, 2000; Kishan and Opiela, 2000; Maddaloni and Peydró, 2011; Jiménez et al., 2012, 2014), and the effects of macroprudential policy under certain conditions are increasingly being documented (Jiménez et al., 2017; Gambacorta and Murcia, 2020; Acharya et al., 2022; Behn et al., 2024a), there is little work and much

[2]Using a simple New Keynesian model of a monetary union that incorporates financial frictions Dehmej and Gambacorta (2019) show that country-level macroprudential policy could complement the union's monetary policy.

uncertainty about how monetary and macroprudential policies interact to influence credit supply and risk-taking behavior, including on how these effects depend on bank characteristics.[3] These and other challenges, such as designing effective governance for both sets of policies, highlight the importance of understanding, besides how monetary and macroprudential policies transmit individually, how their interaction affects their overall transmission. This knowledge is critical for ensuring effective policy implementation in the presence of imperfections.

In this paper, we investigate the interaction between monetary and macroprudential policies using rich micro-data from AnaCredit, a pan-European credit register that contains detailed, harmonized information on more than 4 million individual firms across the euro area. We combine this data with supervisory information on some 2,000 banks, including detailed financial information and bank-specific capital requirements. We explore the effects on banks' lending and risk-taking by exploiting a unique econometric setting, combining a wave of significant macroprudential policy tightening across euro area countries in the form of higher bank capital buffer requirements that occurred before a sharp and unexpected monetary policy tightening with the steepest interest rate increase ever for the euro area.[4] We then analyse how these macroprudential adjustments affected the bank lending and risk-taking channels of monetary policy transmission, and whether effects differed across banks.

The tightening of bank capital buffer requirements after the pandemic reflected a paradigm shift in macroprudential thinking. Many countries increased bank capital buffer requirements not in response to changes in the business or financial cycle – as envisioned when the policy was originally designed, but rather mainly as a precaution against the effects of exogenous

[3] A notable exception to this is the paper by Altavilla et al. (2020), which is the one most closely related to our own. See below for further discussion on how our analysis expands on Altavilla et al. (2020).

[4] For an overview of the relevant macroprudential policy changes announced before the tightening of monetary policy occurred we refer to Table A1.

shocks (such as a pandemic or war) that can occur at any stage of the cycle (see Behn et al., 2024b). This shift in thinking greatly reduces the (econometric) problem of macroprudential policies being endogenous to economic and financial developments. The subsequent increase in interest rates also came as a surprise, as market expectations until January 2022 suggested a persistently low (or even negative) interest rate (Figure 1). Even by June 2022, forecasts still indicated only a modest increase. Nevertheless, starting in July 2022 interest rates rose sharply and eventually went up by almost 4 percentage points in 12 months, peaking in September 2023. This surprising monetary policy tightening further supports our econometric identification strategy, as macroprudential authorities did not anticipate these rate hikes when they calibrated and announced the buffer increases.

In our paper, we primarily focus on the interactions between monetary and macroprudential policies rather than on their direct effects.[5] In terms of interactions, we do not expect the combination of higher capital buffer requirements and higher interest rates to significantly impact banks with ample capital buffers – those little constrained by the increased capital requirements – since these banks can likely continue lending profitably.[6] Rather our key hypothesis is that banks with the smallest buffer between their actual and required capital ratios will experience a greater impact from the higher buffer requirements and interest rates as they are more likely to be capital-constrained. Furthermore, we expect this effect to manifest itself more strongly in reduced new lending to and higher costs for new firms (extensive margin) rather than in changes for established relationships (the intensive margin). New

[5]This is in part as the latter are absorbed by the various fixed effects in our regressions. But in regressions without fixed effects (reported in Table A2 of the Appendix), we find the expected effect of higher interest rates: lending declines both at the intensive and extensive margins, with the effects larger for capital-constrained banks. For macroprudential policy, we find that banks with capital ratios closer to regulatory requirements lend less in the intensive margin, but no significant results for the extensive margin.

[6]As shown by Behn et al. (2024a), the effect of capital buffer requirement increases in the euro area since the pandemic has been highly dependent on banks' initial capital levels. Well-capitalized banks were able to absorb the higher capital requirements without significantly constraining credit supply.

lending is more discretionary and borrowers applying in the context of a sharp increase in rates would likely be riskier. In contrast, changes in existing loans may be less driven by the severity of capital constraints and reflect more roll-overs or even support for distressed firms (to the extreme, "zombie" firms), for which debt burdens increase with rising interest rates (Albuquerque and Mao, 2023).

Another main hypothesis is that the combined effects of monetary policy tightening and tougher macroprudential policies further reduce the riskiness of new loans. In an environment of rapidly rising interest rates and in response to increased capital buffer requirements, banks tend to become more risk-averse and more reluctant to allow their capital buffers to decline. This caution is driven by heightened likelihood of borrower defaults, stemming from slower economic activity and higher debt repayment burdens. This implies that banks may become less willing to extend credit, particularly in cases where they are unable to recover sufficient value from borrowers' collateral in the event of default. This should be evident in new lending having a lower LTV, reduced use of commercial real estate (CRE) collateral – which is generally a riskier asset type and which value has been on a declining trajectory since the pandemic (Figure A1), and a higher reliance on liquid collateral.

Studying both the intensive and extensive lending margins, as well as measures of the riskiness of (new) loans, we find indeed that, for the average bank, capital buffer requirement increases do not have a statistically significant effect on lending after the monetary policy tightening started. However, when we account for cross-sectional heterogeneity in banks' capital headroom (i.e., the distance between a bank's capital ratio and its regulatory requirement), there are statistically significant contractionary effects for banks with the least available capital buffers. Following a 1 percentage point (pp) increase in capital buffer requirements, these more capital-constrained banks reduced lending by about 1.3 to 1.8 pp for existing credit relationships compared to their better-capitalized peers and were

2.5-4.4 pp less likely to establish new bank-firm relationships during the monetary tightening cycle. These effects are economically meaningful, with the interaction between monetary and macroprudential policies for less capitalized banks accounting for about one-quarter of the combined contractionary impact on lending of the interest rate hikes and buffer requirement increases for the capital constrained banks.[7] We also show that the finding of capital-constrained banks' reduced lending volume carries over to a firm's overall borrowing, suggesting firms cannot easily offset reductions by borrowing from less capital-constrained banks.

Furthermore, we find that the tercile of banks with the smallest buffers were much more reluctant to pass higher policy interest rates on to their borrowers during a period of double tightening, possibly reflecting relationship-based (Berger and Udell, 1992; Petersen and Rajan, 1994) or zombie lending (Albuquerque and Mao, 2023). In addition, we find that following the buffer requirement increases in a fast-rising interest rate environment capital-constrained banks lowered their risk-taking. Specifically, the 1 pp increase in capital buffer requirements resulted in a 4.5 pp reduction in the LTV ratios for newly originated loans and, amongst collateralized loans, a 1.3-2.1 pp lower likelihood of granting loans secured with riskier type of collateral, such as commercial real estate.

Our results are robust to an extensive battery of robustness checks including: a) disentangling the impact of the changes in the Countercyclical Capital Buffer (CCyB) from the changes in other buffers; b) using different samples of firms and periods; c) employing alternative monetary policy measures; and d) utilising several other econometric techniques and varying fixed effect specifications. Overall, considering both the volume, cost, and riskiness of lending, we can show that it is crucial to account for policy interactions when calibrating

[7] Lending among less capitalized banks facing stricter macroprudential measures declined by an average of 2.1 pp during the tightening period compared to the period before. Of this decline, 0.5 pp, or 24%, can be attributed to the impact of the average increase in capital buffer requirements during the tightening.

both monetary and macroprudential policies.

Related literature. In terms of how our work relates to the existing literature, several studies have examined the interactions between monetary and macroprudential policies (see Laeven et al., 2022, for a summary). Papers like IMF (2013) and Bruno et al. (2017) study the effects and interactions of these policies using aggregate cross-country data. These studies typically focus on how overall lending (e.g., credit growth) relates to general indicators of both monetary and macroprudential policies (e.g., dummy variables reflecting the adoption of macroprudential measures). However, much of this literature employs relatively coarse controls for borrower characteristics, including to proxy for the specific demand and supply shocks borrowers may face, and for the broader state of the banking and financial systems. Additionally, many studies do not adequately account for the factors driving changes in monetary policy. As a result, these studies often suffer from well-known issues, such as endogeneity and omitted variable bias, complicating the attribution of causal impacts and the precise understanding of policy interactions.

A few studies have investigated the effects of macroprudential policies using micro data, helping to address some of the weaknesses arising from the use of aggregate data. Single-country papers are Jiménez et al. (2017), which studied the impact of dynamic loan loss provisioning in Spain on bank lending behavior using bank-firm loan level data; Acharya et al. (2022), which showed how borrower-based macroprudential measures affected the lending behavior of banks in Ireland; Benetton et al. (2021), which found that mortgage pricing in the United Kingdom is affected by risk-weighted capital requirements and that this effect varies across mortgage loans depending on their loan-to-value ratio; Defusco et al. (2020), which showed that household leverage constraints under the Dodd-Frank Act affected both the cost and supply of US mortgages; and Behn et al. (2024a), which looked at the effects of capital buffer requirement increases in the euro area.

Many studies have investigated the transmission and effects of monetary policy using micro data for banks, firms or households. Some of these studies have focused on how bank characteristics (i.e., bank size, liquidity and capitalization) affect the transmission of monetary policy shocks to the credit supply (Kashyap and Stein, 2000; Kishan and Opiela, 2000; Gambacorta, 2005; Jiménez et al., 2012, 2014; see Gambacorta and Marques-Ibanez, 2011 for a review). Others have used bank-firm level data. For example, Cantú et al. (2022) conducted a meta-analysis from studies that use credit registry data for commercial loans in five Latin American countries to show that the lending supply of well-capitalized and more profitable banks reacts less to domestic monetary policy shocks, while that of banks with high-risk indicators and more volatile funding sources reacts more.

The studies reviewed so far do not address the interactions between monetary and (micro and macro)-prudential policies. Using UK bank-level data, Aiyar et al. (2016) analyze the interplay between monetary policy and changes in bank-specific capital requirements. They find that while both policies independently affect lending, their interaction is statistically insignificant.[8] Using micro-level data, we confirm that, for the average bank, increases in its capital buffer requirement do not statistically significant affect lending during a period of monetary policy tightening. However, we find that effects depend on a bank's capital headroom, a dimension not explored by Aiyar et al. (2016). Imbierowicz et al. (2020) investigate how changes in capital requirements and monetary policy, as well as their interaction, affect German banks' corporate loan growth and lending rates. While they find that simultaneous tightening of both policies influences lending rates, the impact on lending volumes is statistically insignificant. Their analysis relies as well on bank-level data, potentially overlooking heterogeneity in firms' risk profiles and shifts in credit demand. Gambacorta and

[8] De Marco et al. (2021) also examine the interaction between these policies in the UK during a credit boom, focusing on corporate investment. Their results also indicate no significant interaction effect on investment.

Murcia (2020) conducts a meta-analysis of micro-level studies for Latin American countries. They show that macroprudential policies interact with changes in interest rates to slow lending.[9] But their analysis does not use a harmonized credit register dataset and relies on changes in real monetary policy rates rather than monetary policy shocks. A paper more closely aligned with our approach is Altavilla et al. (2020) which examines if monetary and macroprudential policies complement each other using bank-firm linked data from various European credit registries. They find that, in the context of generally accommodative monetary policy shocks, bank lending – particularly to riskier borrowers – increases, especially when macroprudential conditions in the specific country are loose, with effects stronger for less-capitalized banks. However, their analysis uses monetary policy shocks based on market surprises around central bank decisions, which, being of a high frequency, appears less suited to explaining lending decisions that take time and are presumably more based on (expected) changes in the level of interest rates. Furthermore, the policy interest rate in the euro area did not change much over the period studied. Importantly, the paper considers the stance of macroprudential policies as a conditioning factor, rather than examining the direct impact of changes in the macroprudential stance, grouping alongside other policies and institutional characteristics that can influence lending over longer periods.

Our paper advances the existing literature in several ways. By using micro firm-level data, it further improves on external validity through the analysis of a harmonized dataset of lending across a wide set of euro area countries. Specifically, studying firms that borrow from multiple banks allows us to control – by adopting the methodology of Khwaja and Mian (2008) – for changes in credit demand that may have driven an individual firm's

[9] They find for example that: "in the case of a macroprudential **tightening**, monetary policy conditions pushing in the same direction had on average an additional contractionary effect of -0.5% on lending. This effect is significant but quite low in economic terms, considering the fact that the average effect of a macroprudential policy tightening is -7.2% after one year."

borrowing decision. Our study also improves on previous works by leveraging an unexpected monetary policy event: the significant monetary tightening in the euro area that started in July 2022. Moreover, while existing studies (e.g., Altavilla et al., 2020) have identified risk-taking through measures such as defaulted loans or borrowers' bad credit histories, we examine banks' risk-taking behavior by analyzing variables related to loss given default, such as the amount and type of collateral – a dimension that has not been explored in the existing literature. Importantly, our analysis of macroprudential policies goes beyond most studies that only analyse country-level variation, incorporating differences at the bank level. Finally, the euro area provides a unique setting for studying differential policy impacts, as member countries share a common monetary policy, but still have diverse business cycles, economic conditions, and financial environments, given the incomplete integration in the region. Together, this creates substantial variation in how individual banks were affected, providing more insight in how the interaction between monetary and macroprudential policies is shaped by various conditions.

2 Data and estimation strategy

2.1 Data

We build a comprehensive dataset by combining two ECB proprietary data sources. We start with describing the sources for the bank balance sheet characteristics and the minimum capital requirements (including buffer requirements). Bank-level information is gathered from internal ECB Supervisory Banking Data and is available on a quarterly frequency. The minimal capital requirement for each bank is obtained from supervisory reports, combines all microprudential and macroprudential buffers, and follows standard definitions (see further Annex A). We cover 1,959 euro area banks from the first quarter of 2021 to the last quarter

of 2023. Since the tightening period of the monetary policy started in July 2022, we have an equal number of quarters in the period before and after (6).

Bank-firm-level data is taken from AnaCredit, the pan-European credit register, containing information on all individual bank loans larger than EUR 25,000 to firms in the euro area. AnaCredit is collected by the ECB from the National Central Banks of the Eurosystem in a harmonised manner to ensure consistency across euro area countries. AnaCredit encompasses several loan attributes including the type of credit (overdraft, revolving credit, credit line, term loans, financial leases and other loans), outstanding balance, interest rate, maturity, collateral (type) and amount at origination. AnaCredit also has detailed information about the borrower (firm identifier, country location, postal and economic activity (NACE) codes). Importantly, for each loan, we observe the lender through a bank identifier allowing us to match bank balance sheet characteristics with the bank-firm-level data. For the purpose of this paper, we look at both changes in the outstanding balance at the bank-firm level as well as at newly originated loans. For the bank-firm level analysis, we collapse the aforementioned credit types at the bank-firm level.[10] For the newly originated loans analysis we consider only loans originated from January 2021 until the end of the sample period. Table 1 reports a detailed definition of the variables employed in the analyses and their sources.

Table 2 reports the summary statistics for the bank-level (Panel A), bank-firm level (Panel B) and new loan-origination (Panel C) datasets. We discuss in detail the key variables we employ to answer our research questions, using also supportive figures.

The first bank variable, *Cum.* ΔCBR, is the cumulative change in the announced combined buffer requirement (CBR) before the monetary policy tightening, i.e. from the first

[10]To avoid changes in loan volumes determined by firms drawing on existing credit lines, we define the loan volume as the total agreed contractual amount, therefore including any undrawn credit rather than focusing only on the outstanding amount.

quarter of 2021 to the second quarter of 2022.[11] In this way, we avoid the (unexpected) monetary policy tightening affecting the calibration of macroprudential tools as both may impact bank lending and/or risk-taking behaviour. In addition, we consider the announcement in a bank's capital buffer increase rather than when the increase comes into effect to account for the likely anticipation by banks.[12] The increase is on average 40 bp and displays substantial time and cross-sectional heterogeneity. Figure 2 shows that the bulk of the announced increases is concentrated in the first and second quarter of 2022, thus immediately before the start of the monetary policy tightening. And, as Figure 3 shows, there is a large variation by bank with about 45% of the banks in our sample not seeing any or only a negligible cumulative change in the CBR, while banks at the 75th percentile of the distribution experience an increase of about 90 bp.

Our second key variable, *D2CBR*, measures the distance to the CBR, i.e., the difference between a bank's actual capital ratio and its then current capital requirement, on a quarterly frequency. Figure 4 shows the evolution of *D2CBR* for the first (smallest) tercile and the median over the sample period, with the former used as the cutoff to identify potentially capital-constrained banks. The *D2CBR* declined on average by about 1.2 percentage points in the beginning of 2022, in line with the large increase in the CBRs, but again with a large variation across banks. We expect the effect of changes in CBRs on bank lending supply in a fast-rising interest rate environment to be stronger for banks with less capital headroom

[11] See Annex A for a detailed explanation of euro area banks' capital stack, the CBR and the distance between the actual ratio and the CBR.

[12] For instance, for the countercyclical capital buffer, which accounts for the bulk of capital buffer increases during the sample period, European legislation prescribes that increases must be announced twelve months in advance (except if extraordinary circumstances justify a faster implementation) to provide banks with sufficient time for adjustment. While for some other buffers, there are no specific legal requirements as to the implementation period, authorities usually announce buffer increases several quarters in advance. In contrast, buffer releases do not need to be announced in advance and are usually implemented swiftly after a shock that justifies the release. With our focus on buffer increases and since buffer releases were very rare during our sample period, the possibility of releases does not pose any empirical challenges.

above the CBR.

Panel B of Table 2 reports summary statistics for our main variables of interest at the bank-firm level. The key variable here is $\Delta\ ln$ (loans), which is the quarterly change in the logarithm of the overall lending from bank i to firm j. It is negative on average, with a mean of 2.6%, in line with the higher interest rates and increased buffers dampening the overall demand and supply of credit. But again there is a substantial variation across banks, as seen in the largest decline of 54.1 percent and the largest increase of 61.4 percent. $D(newrel)$ is a dummy variable indicating the establishment of a new bank-firm relationship. The dummy takes the value one when relationships first appear in our dataset and zero otherwise. It exhibits an average value of 2.9% indicating that a moderate share of new bank-firm relationships have been created during our sample period.

Panel C of Table 2 provides the summary descriptive statistics for the variables employed in the sub-sample of collateralized loans utilized to gauge the degree of risk-taking behaviour by banks in new lending. The average loan-to-value (LTV) ratio is about 1 indicating that loans are generally fully secured by collateral. But different types of collateral are used. Figure 5 illustrates the most common assets banks rely on to secure their credit. Residential real estate (RRE) and offices are pledged as collateral in approximately 60% of cases. Deposits and trade receivable account for about 15% and 12.5%, respectively, while commercial real estate (CRE) for about 7%. However, there is a large variation in collateral types across new loans and shifts over time, as we will see later.

Finally, Table 3 reports the country coverage in terms of the number and percentages of observations and banks included in the sample. Most observations are concentrated in Italy (33.2%), Spain (22.8%), France (18.6%) and Germany (10.5%), largely in line with the importance of those countries for the euro area economy.

2.2 Estimation strategy

To estimate how the interaction between macroprudential and monetary policy affects bank lending and risk-taking in the euro area, we start by estimating panel regressions as follows:

$$\begin{aligned} Y_{i,j,t} =& \mu Cum.\ \Delta CBR_i + \tau MP\ Tightening_t + \\ & \beta Cum.\ \Delta CBR_i \times MP\ Tightening_t \times [D(D2CBR < Tercile)_{it}] \\ & + \alpha_i + \alpha_{j,t} + \gamma X'_{i,t-1} \times [MP\ Tightening_t] + \psi Z'_{i,j,t} + \varepsilon_{i,j,t}, \end{aligned} \tag{1}$$

where i denotes the bank, j denotes the borrower, and t denotes the quarter. $Y_{i,j,t}$ refers to three dependent variables. The first is $\Delta ln(loans)_{i,j,t}$, the quarterly change in the overall volume of loans granted by bank i to borrower j at time t, that is the intensive margin. The second is $D(newrel)$, the dummy variable that equals one when a firm that had one or more relationships in quarter $t-1$ starts borrowing from a new bank in quarter t, that is the extensive margin. The third is the interest rate charged on newly originated loans, exploring how rates are adjusted as the policy interest rate rises. In terms of independent variables, *Cum.* $\Delta CBR_{i,t}$ is the cumulative change in the announced CBR for bank i from the first quarter of 2021 to the second quarter of 2022 (see Section 2.1). *MP Tightening* is a binary variable that equals one after the onset of the tightening cycle in 2022 Q3, and zero for the preceding quarters.[13]

Our coefficient of interest, β, estimates the differential effect of the change in the CBR on lending between the period before and after the onset of the tightening of monetary policy. Besides the magnitude of the change in the CBR, we expect the effect on lending to depend

[13] In Tables B1 to B7 of the online Appendix, we redo all the base regressions replacing the tightening dummy with the cumulative change in the deposit facility rate (ΔDFR) and find similar results.

on a bank's capital headroom over its CBR. Therefore, in most econometric specifications, we exploit the cross-sectional heterogeneity in banks' distance to the CBR to identify capital constrained banks. Specifically, we use a dummy, $D(D2CBR < Tercile)_{i,t}$, that equals one for capital constrained banks, i.e., banks with a distance to the CBR in the first tercile of the distance to CBR distribution, and 0 otherwise. $X'_{i,t-1}$ is a vector of time-varying, bank-specific control variables, lagged by one quarter to account for possible simultaneity with the actual lending, which includes the logarithm of total assets, the CET1 capital ratio, the return on assets, the cash-to-asset ratio, the deposit-to-asset ratio, the non-performing loans ratio, the overall risk-based capital requirement and the loan loss provision-to-asset ratio.[14] In the spirit of Gomez et al. (2021), we allow in some econometric specifications these control variables to have a heterogeneous effect on lending following the initiation of the monetary policy tightening by interacting them with the monetary policy tightening dummy ($X'_{i,t-1} \times [MP\ Tightening_t]$). $Z'_{i,j,t}$ is a vector of loan-level characteristics including the weighted average loan maturity, with the fraction of the respective bank's loans to the firm in the firm's total loans are used as weights, and the amount of collateral to loan ratio.

Our regressions are saturated with a granular set of fixed effects to account for both observed and unobserved heterogeneity across different (groups of) observations. Depending on the specification, these include bank and borrower × quarter fixed effects, α_i and $\alpha_{j,t}$. Borrower × quarter interactions are particularly useful to include since they ensure that our main coefficients are identified by the variation in lending of different banks to the same firm in the same period, thus controlling for differences in firms' demand for credit as well as other firm-specific and time-varying heterogeneity that may affect observed outcomes (see Khwaja and Mian 2008). In some specifications, we also account for the endogenous

[14] While we over-saturate the model with bank control variables (many turn out not to be significant), this does not affect our main result. A correlation matrix for all the variables included in the econometric specifications is provided in Table A3 in the Appendix.

matching between banks and firms through the inclusion of bank × firm fixed effects, as in Poligrova and Santos (2017). This allows us to control for lending relationships and information asymmetries between the bank and borrower that may affect access to credit as well as by a compositional change in the pool of borrowers and lenders. Given that we include bank and borrower × quarter fixed effects across all our models, both the cumulative change in the CBR (*Cum.* $\Delta CBR_{i,t}$) and the indicator variable for monetary policy tightening (*MP Tightening*) are entirely subsumed by these fixed effects and therefore do not appear separately in the analyses. Finally, $\varepsilon_{i,j,t}$ is a random error term. Standard errors in all our regressions are clustered at the bank level to account for possible correlation.

We then proceed to investigate whether macroprudential policy tightening acts as an additional disciplining device in a fast rising interest rate environment, steering banks' behaviour towards safer lending. Here, we analyse just newly originated loans, i.e., loans originated after January 2021 and restrict our focus to only term loans.[15] This line of analysis serves two purposes. First and considering that one of our dependent variables is the loan-to-value ratio (LTV), looking at new lending allows us to capture the LTV ratio at origination, thereby avoiding changes in the value of collateral (the denominator of the LTV ratio) during the time of a bank-firm relationship. Second, focusing only on one instrument (term loans) rather than collapsing all lending instruments at the bank-firm level, as done in Equation 1, enables us to match each lending instrument with its specific collateral. The second panel specification is therefore structured as follows:

[15] As shown in Figure A2 in the Appendix, term loans are by far the most populated instrument category in AnaCredit.

$$
\begin{aligned}
Y_{i,j,t} =& \mu Cum.\ \Delta CBR_i + \tau MP\ Tightening_t + \\
& \beta Cum.\ \Delta CBR_i \times MP\ Tightening_t \times [D(D2CBR < Tercile)_{it}] \\
& + \alpha_i + \alpha_{ils,t} + \gamma X'_{i,t-1} \times [MP\ Tightening_t] + \psi Z'_{i,j,t} + \varepsilon_{i,j,t}, \qquad (2)
\end{aligned}
$$

where i denotes again the bank, j the borrower, and t the quarter. $Y_{i,j,t}$ refers to the three different dependent variables of our interest (LTV, CRE and Liquid collateral dummies). LTV is the loan to value ratio at origination. CRE is a dummy variable that equals one when a loan is secured by commercial real estate and offices, and 0 otherwise. Liquid collateral is a dummy that equals one when a loan is secured by liquid collateral such as securities and deposits, and 0 otherwise. In equation 2, we replace borrower × quarter fixed effects with industry × location × size (ILS) × quarter fixed effects to relax the multiple bank-relationship assumption (which in this setting would have implied that a firm must take out new loans from at least two different banks in a given quarter to be included in the sample). To classify the industrial sectors we use the NACE Rev.2 code, where the industry cluster is based on 2-digit NACE codes. The location cluster is based on postal codes, whilst for size we follow the definition provided in AnaCredit.[16] The variables of interest as well as the bank-specific control variables are otherwise the same as in equation 1.

[16] AnaCredit follows the EU Commission's standard classification for SMEs (https://single-market-economy.ec.europa.eu/smes_en): 'Micro' firms are enterprises that employ less than 10 employees and whose annual turnover and/or annual balance sheet total does not exceed EUR 2 million; 'Small' firms are enterprises that employ less than 50 employees and have an annual turnover and/or annual balance sheet total that does not exceed EUR 10 million; 'Medium' firms are enterprises that employ less than 250 but more than 50 employees, have an annual turnover not exceeding EUR 50 million and/or an annual balance sheet total not exceeding EUR 43 million. And 'Large' firms are enterprises that employ more than 250 employees and have an annual turnover exceeding EUR 50 million and/or an annual balance sheet total exceeding EUR 43 million.

3 Results

3.1 Lending

We begin by examining how loan volumes at the bank × firm level (i.e., the intensive margin) have changed in response to the higher CBR from the period just prior to that after the onset of the monetary policy tightening. We then turn our attention to changes in the propensity to establish new bank-firm relationships (i.e., the extensive margin). The resultant regression results are reported in Tables 4 and 5 respectively. All econometric specifications include bank and borrower × quarter fixed effects, and thus analyze the changes in loan supply by banks with heterogeneous increases in the CBR lending to the same firm in the same quarter. We progressively saturate the models with bank × firm fixed effects to ensure robustness.

The regression result in the first line of column 1 of Table 4 shows that, on average, changes in the CBR did not result in a statistically significant effect on banks' overall lending to firms since the start of the monetary policy tightening in the euro area. Indeed, the estimated coefficient is negative but statistically insignificant. The result is also statistically insignificant when we allow our bank control variables to have a differential effect on lending following the monetary policy tightening (column 5). However, we do find that the effect on lending is contingent on banks' capital headroom. Columns 2-4 and 6-8 of Table 4 show that, when the CBR increases by 1 pp, banks with a distance to the CBR below the first tercile of the distance distribution cut back their lending by between 1.4 to 1.8 pp more relative to their better capitalised peers in a rising interest rate environment.[17] This result is not only statistically significant in relative terms but also overall. For instance, in column 2, the F-tests for joint significance of the sum of the first two variables reveal that a 1 pp

[17] This effect is even stronger for banks below the first quartile of the distance distribution and statistically insignificant at the median.

increase in the CBR implies a circa 2.4 pp overall credit contraction for banks closest to the regulatory capital threshold (p-value < 0.05).

The results are consistent when we analyse the likelihood to establish a new bank-firm relationship (Table 5). Here column 1 of Table 5 shows that, for the average bank, changes in the CBR result in an about 1.7 pp lower probability of establishing a new bank-firm relationship during the interest rate hiking cycle. But this result for the average bank loses statistical significance when time-varying observable bank control variables are interacted with the dummy indicating the monetary tightening period (column 5). Indeed, the coefficient shrinks by about 1 pp when these interactions are included, indicating the importance of controlling for the heterogeneous effect on lending coming from bank-specific traits in a rising interest rate environment. Importantly, as for the change in overall lending, the effect depends on banks' distance to the CBR. Columns 2-4 and 6-8 of Table 5 show that when the CBR increases by 1 pp, banks with a distance to the CBR below the first tercile are about 2.5-4.4 pp less likely to start a new bank-firm relationship relative to better-capitalised banks. The point estimates in Table 5 are about double the size of the intensive margin regressions, showing a stronger effect on new lending than on overall loan growth. This is in line with the reasoning that new borrowers applying in the context of a sharp increase in interest rates would likely be riskier and banks would be less willing to lend to them compared to extending new or rolling over loans to their existing borrowers, especially when their capital is close to requirements. Again, when considering the degree of capital constraints, this result is also mostly statistically significant overall.

These results suggest that a tightening of macroprudential policy *per se* does not affect bank lending supply in a fast-rising interest rate environment. But when the two policies affect a bank with a low level of capitalisation, it does reduce lending. In other words, while a well-capitalized banking sector shields overall credit provision from an abrupt monetary

policy tightening, banks closer to the regulatory capital threshold will still reduce their credit exposure, possibly to maintain or restore their capital headroom.

3.2 Interest rates

So far, we have studied the interaction effects of the two policies on the volume of lending. But of importance too are their combined effects on the price of credit, notably whether banks pass more of the increase in policy interest rates on to their borrowers when their required buffers also increase. In this section, we use the same regression specification as before, but now with the interest rate on new lending as the dependent variable.

Table 6 reports the results, differentiating by the usual classes of banks' capitalization. The two significant coefficients in columns 1 and 2 of the first row suggest that in general banks incorporate more of the increase in the policy rate in the terms of their new loans when at the same time their required capital buffer increases. Specifically, a 1 pp higher ΔCBR_i is associated with a 51-63 basis points higher interest rate on new lending since the onset of the monetary policy tightening period. Interestingly, however, the most capital-constrained banks do not increase as much their interest rate, as the significant coefficient of -0.67 for the triple interaction in column 2 shows. Actually, the F-test shows that the overall extra effect for these banks is statistically not different from zero, so essentially no additional pass-through.

Furthermore, and different from our analyses of the volume of lending, the heterogeneity in bank-specific characteristics matters much for the adjustment in the lending rates with several bank-specific characteristics other than capitalization being important in determining the degree of pass-through. Specifically, when we include in columns 3 and 4 the usual key bank variables interacted with the monetary policy tightening dummy, the double interactions are no longer (or only marginally) significant, and more of the interacted bank variables

are now significant than earlier. For example, during the monetary tightening period larger (lnTA), better capitalized (CET1) and more deposit-funded (DEP/TA), yet less profitable (ROA) banks pass on more of the interest rate increase, but banks with a higher ratio of cash held as a fraction to bank's total asset (CASH/TA) pass on less of the interest rate increase. In particular, a 1 percentage point increase in CET1 (DEP/TA) leads to an approximately 4 (1) basis points higher interest rate on new lending, while a 1 percentage point increase in ROA (CASH/TA) reduces the effect by 24 (2.5) basis points. This suggests that banks passed on more of the interest rate increase when they paid more on their deposits and their profits were low to begin with. But, in addition to the tercile of banks with the smallest buffers, there was some reluctance on the part of those banks with less capital, yet with more liquidity on hand, to pass on their higher funding costs during a period of double tightening, possibly reflecting relationship-based (Berger and Udell, 1992; Petersen and Rajan, 1994) or zombie lending (Albuquerque and Mao, 2023).

3.3 Risk-taking

In this section, we examine whether macroprudential policy tightening acts as a disciplining device on risk-taking in a fast rising interest rate environment in that it steers banks' behaviour towards safer new lending. The regression results for the subsample of secured loans corresponding to Equation 2 are reported in Table 7 - 9, where Table 7 reports the results with LTV as the dependent variable, and Table 8 and Table 9 report the estimates of limited dependent variable models using commercial real estate and liquid collateral dummies as dependent variables respectively. All econometric specifications include ILS $\times$ quarter fixed effects. In the LTV regressions we further incorporate collateral fixed effects to control for the heterogeneity in the type of collateral pledged. This is particularly important because if banks facing increases in the CBR are not randomly matched with a specific collateral type,

the decline in the LTV could be driven by unobservable collateral preferences rather than higher risk aversion in a rising interest rate environment.[18]

Regression results in columns 1 and 3 of Table 7 show that, on average, a 1 percentage point change in the CBR is associated with 4.3 - 4.7 percentage points lower LTVs during the monetary policy hiking cycle. This result indicates that overall banks that have to phase-in higher capital buffer requirements in a period characterised by monetary policy tightening act more cautiously and grant a lower loan for the same amount of pledged collateral. As in our earlier analysis of the volume of lending, columns 2 and 4 of Table 7 show that this more conservative lending effect is largely driven by the less capitalised banks (i.e., banks below the tercile of the distance to the CBR distribution). In those specifications, the triple interaction coefficients displaying the effect for less capitalised banks is very large and statistically significant. On the contrary, the double interaction $Cum.\ \Delta CBR \times MP\ Tightening$ shrinks in magnitude compared to those in columns 1 and 3 (by about 2.2 percentage points) and is no longer statistical significant, denoting that well capitalised banks do not change their LTVs in response to tighter macroprudential policies when the policy rate increases.

Tables 8 and 9 report the results as to the likelihood that the actual collateral used when lending is commercial real estate or liquid collateral respectively. The first line in Table 8 shows that, on average, the likelihood of using commercial real estate as collateral drops by 1-2 percentage points when capital buffers are raised during a monetary policy hiking cycle. This result does not vary by the capitalization of the bank, as the two coefficients for the triple interactions with the dummy for the tercile of less capitalised banks are not significant. This indicates that the move away from commercial real estate, a typically risky asset class, as a collateral is a general one. The results for liquid assets as collateral, Table 9,

[18]The collinearity between the dummy dependent variables and collateral type fixed effects preclude a similar econometric set up. However given that the dummy dependent variables already capture a specific collateral type, the inclusion of collateral fixed effects is not needed.

show the mirror image: overall banks tend to rely more on liquid collateral during a period characterised by monetary policy tightening and higher buffer requirements. The effects again do not differ by the level of bank capitalization. But they are in magnitude much greater than the decline in the use of commercial real estate as collateral. This suggests that all banks lend much more cautiously and seek more the full security of deposits and liquid securities during such periods.

3.4 Firm-level results

Our main analyses suggest that increases in capital buffer requirements reduced lending during the monetary policy tightening period primarily for less capitalized banks, while the impact on risk-taking – particularly concerning the type of collateral pledged – appears to be independent of a bank's capitalization level, with all banks typically reducing their risk appetite in response to capital buffer increases in a rising interest rate environment. In this section, we examine whether lending contractions by less capitalized banks had an adverse impact on firms' overall access to loans. Our data shows that on average, firms that have borrowed from banks with a concomitant increase in capital buffer requirements and limited CBR headroom represent a sizeable exposure in many countries (Figure 6, where $HighExposure$ is the country average of a dummy $HighExposure_{j,t}$ taking the value 1 for firms j that have at time t, prior to the monetary policy tightening (second quarter of 2022), obtained more than 50% of their credit from banks facing increases in the CBR and that are below the first tercile of the distance to CBR distribution). We know that firms get less credit from the more constrained banks when those face a positive increase in buffer requirements. But in principle, firms borrowing from such banks could seek to offset the reduction in credit by turning to banks with a greater capital cushion. At the same time, banks with larger capital buffers may be especially reluctant to lend to these firms during

periods of monetary policy tightening and greater uncertainty to reduce risks.

To analyze this question, we adopt the following econometric identification strategy:

$$\begin{aligned}\Delta ln(borrowing)_{j,t} = \beta HighExposure_{j,t} + \psi HighExposure_{j,t} \\ \times MP\ Tightening_t + X'_{j,t-1}\gamma + \alpha_{ils,t} + \epsilon_{j,t},\end{aligned} \tag{3}$$

where $\Delta ln(borrowing)_{j,t}$ is the change in logarithm of aggregate banks borrowing by firm j at time t. Our variable of interest is the dummy $HighExposure_{j,t}$, as defined above. The monetary policy tightening dummy ($MP\ Tightening$) is again defined as in equation 1. A negative coefficient ψ would indicate that firms that primarily borrowed from less capitalized banks affected by the buffer requirement increases experience a reduction in their aggregate borrowing during the monetary tightening cycle, again compared with firms borrowing from less affected banks. The vector $X'_{j,t-1}$ includes weighted averages of bank control variables, where the weights are the proportion of each bank's loans to the firm relative to the firm's total loans. The specification incorporates ILS $\times$ time fixed effects, $\alpha_{ils,t}$, to control for potential heterogeneity in credit demand across firms. In some specifications, we also include firm fixed effects to remove all time-invariant heterogeneity across firms. Standard errors are clustered at the largest lender level (as in Behn et al., 2016).

Table 10 reports the results for the firm-level analysis. Column 1 displays the estimates when we just control for (weighted average) bank-specific characteristics, while in columns 2 and 3 we add respectively first the weighted average loan-level characteristics and then also firm fixed effects. The coefficient for the interaction term of interest, $HighExposure_{j,t} \times MP\ Tightening_t$, is negative and statistically significant for all three econometric specifications. This indicates that firms borrowing mostly from less capitalized banks that experienced capital buffer increases face a decline in their overall borrowing during the interest rate

hike relative to firms borrowing mostly from less exposed banks. The coefficients are also sizeable, with exposed firms seeing their borrowing decline by about 1.2 percentage points more (column 1), although the coefficient shrinks to about half in the specification with the richest controls (column 3). These findings suggest that firms cannot easily replace loans when their primary lenders are less capitalized banks facing increases in the CBR with loans from other, less-affected banks. This may be because such banks, besides knowing less about new borrowers in general, are reluctant to extend loans to these firms specifically during an uncertain period of rapid monetary tightening.

4 Robustness checks

We conduct a number of robustness tests. In our analysis thus far, we used the pre-tightening cumulative change in the CBR as the main variable of interest. For most countries, however, a substantial part of the change in the CBR arises from increases in the CCyB (Figure 7). This raises an important question: does the CCyB entirely drive the results, or do other capital buffer requirements – most notably the O-SII, G-SIB and SyRB – also contribute? To address this, we conduct first a robustness check to disentangle the impact of the CCyB from that of the other buffers. Specifically, we calculate a bank-specific CCyB defined as a weighted average of CCyB rates applicable to each country, using the risk-weighted exposures of the bank in each country as weights.[19] As for the CBR, we use the announced CCyB as of the second quarter of 2022, prior to the monetary policy tightening.

Throughout the paper we have also analyzed the effects of the combination of monetary and macroprudential tightening using the sample of firms that borrow from more than one bank, allowing us to fully control for demand and supply shocks (Khwaja and Mian, 2008).

[19]The bank-specific CCyB is also included in the construction of the cumulative change in the CBR used for the other analyses.

As another set of robustness tests, we repeat all the regressions for the full sample of firms, that is, also including those firms that borrow from one bank only. This means we can no longer use the borrower × time fixed effects to control for any demand or supply shocks that affect specific firms differently (Degryse et al., 2019). Instead we use ILS × time fixed effects to proxy for firm-specific shocks and circumstances. We report the most important regression results, first for the intensive and then for the extensive margin.[20]

4.1 Disentangling the impact of the CCyB from other buffers

Tables 11 - 15 reports the results obtained when replacing the cumulative change in the CBR (Cum. ΔCBR) with the level of the bank-specific CCyB. In the bank-firm level analyses (Tables 11 and 12), we find that, consistent with the baseline results, changes in the CCyB do not statistically significant affect banks' overall lending to non-financial corporations since the start of the monetary policy tightening. However, for less capitalized banks, there is a statistically significant effect on lending growth to non-financial corporations, again in line with the baseline findings. Notably, the point estimates are lower than those in the baseline results and in some specifications statistically insignificant. This suggests that changes in the CCyB are not the sole driver of the observed effects and that adjustments in other capital buffer requirements also play a role.

Tables 13 - 15 presents the results on new loan origination. The results are again mostly in

[20] We conduct a battery of further robustness checks to corroborate the validity of our results, which we include in the Online Appendix for the sake of space. Specifically, in Tables B8 to B12 we saturate the set of fixed effects even more by including maturity bucket and interest rate type fixed effects. In Tables B13 to B17, we focus on the first three quarters following the monetary policy tightening, concluding the sample period in the first quarter of 2023 (rather than at the end). In Table B18 and B22, we drop those banks that have a CBR increase equal to zero. Despite the loss in the number of observations, we find that the results are consistent with the baseline, with the point estimates showing slightly larger coefficients. And we test whether government guarantee schemes extended during Covid and still active after 2021 made a difference (Tables B23 and B24) and find that results are unaffected (and confirm that the guarantees supported lending).

line with the baseline, although the point estimates are generally lower (except for the liquid collateral dummy) and less statistically significant, corroborating the evidence on overall lending that changes in the CCyB are not solely driving the baseline findings.

4.2 Including single bank relationships

Table 16 reports the results for the intensive margin, using the same specification as in Table 4 (except for the borrower $\times$ time fixed effects). As regressions now also include the single bank firms, the number of observations increases to some 30 million, compared to the 12.8 million in Table 4, in line with the large number of firms borrowing from only one bank. The key regression results are maintained in that the most capital-constrained banks reduce their lending by some 1.3 - 1.8 pp, very similar to the earlier point estimates. This also shows that the earlier results are robust to using other fixed effects specifications.

Table 17 reports the results when considering the likelihood of new lending. Relative to Table 5, which showed an analysis of firms present in the sample in quarter $t-1$ but starting a new bank-firm relationship in quarter t, in Table 17 we include firms that were not in the sample in quarter $t-1$ but entered the AnaCredit registry in quarter t. The sample expands here as well, to about 32 million observations.

The regression results reported in Table 17 are broadly similar to those of Table 5 in that the most capital-constrained banks are the ones that are less likely to establish new lending relationships when faced with the double tightening. Results are very similar for the sample of all firms and that of only those firms without a pre-existing credit relationship. Quantitatively, the effects are very similar to those reported before, in that the likelihood of a new lending relationship being formed is reduced by some 3 percentage points.

5 Conclusion

We investigate the effects of the interactions between monetary and macroprudential policy on banks' lending and risk-taking. We use firm-level data from Anacredit, the rich euro area credit registry, and detailed bank data, including bank-specific capital requirements. We exploit a unique setting that combines an unexpected and sharp monetary tightening with a wave of macroprudential tightening initiated before. Besides using firm-level data from a single credit registry for multiple countries and rich bank-level data to identify for which bank the higher requirements were more binding, we improve on existing research on this topic by analysing firms with multiple banking relationships to control for credit demand.

We find that, while for the average bank, capital buffer requirement increases did not significantly reduce lending additionally during the monetary policy tightening, for those banks that did become capital-constrained, lending fell more for existing credit relationships and new bank-firm relationships were less likely to be established, both relative to their better-capitalized peers. Banks also reflected less of the higher interest rate in their new lending terms if they were more capital-constrained. In addition, the more capital-constrained banks took fewer risks, with an increase in capital buffer requirements when interest rates increased resulting in a greater reduction in the LTV ratio for newly originated loans, and used less risky assets, such as commercial real estate, as collateral.

Our analysis shows that when considering the pass-through of monetary policy and calibrating the combination of monetary and macroprudential policies as to their anticipated effects on the volume, cost, and riskiness of lending, it is crucial to account for the interactions between the two policies as well as for bank heterogeneity.

References

Acharya, V., Bergant, K., Crosignani, M., Eisert, T., and McCann, F. (2022). The anatomy of the transmission of macroprudential policies. *Journal of Finance*, 77:2533–2575.

Aiyar, S., Calomiris, C., and Wieladek, T. (2016). How does credit supply respond to monetary policy and bank minimum capital requirements? *European Economic Review*, 82:142–165.

Albuquerque, B. and Mao, C. (2023). The zombie lending channel of monetary policy. *IMF Working Paper, No 2023/192. International Monetary Fund*.

Altavilla, C., Laeven, L., and Peydró, J. (2020). Monetary and macroprudential policy complementarities: evidence from European credit registers. *ECB Working Paper Series, N0 2504. European Central bank*.

Angelini, P., Neri, S., and Panetta, F. (2014). The interaction between capital requirements and monetary policy. *Journal of Money, Credit and Banking*, 46:1073–1112.

Behn, M., Forletta, M., and Reghezza, A. (2024a). Buying insurance at low economic cost – the effects of bank capital buffer increases since the pandemic. *ECB Working Paper Series, No 2951. European Central Bank*.

Behn, M., Haselmann, R., and Wachtel, P. (2016). Procyclical capital regulation and lending. *Journal of Finance*, 71(2):919–956.

Behn, M., Pereira, A., Pirovano, M., and Testa, A. (2024b). A positive neutral rate for the countercyclical capital buffer – state of play in the Banking Union. *Macroprudential Bulletin No 21. European Central Bank*.

Benetton, M., Eckley, P., Garbarino, N., Kirwin, L., and Latsi, G. (2021). Capital requirements and mortgage pricing: Evidence from Basel II. *Journal of Financial Intermediation*, 48:100883.

Berger, A. N. and Udell, G. F. (1992). Some evidence on the empirical significance of credit rationing. *Journal of Political Economy*, 100(5):1047–1077.

BIS (2022). Macro-financial stability frameworks and external financial conditions. *Report to the G20 Finance Ministers and Central Bank Governors: Bank for International Settlements: July*.

Bruno, V., Shim, I., and Shin, H. (2017). Comparative assessment of macroprudential policies. *Journal of Financial Stability*, 28:183–202.

Cantú, C., Claessens, S., and Gambacorta, L. (2022). How do bank-specific characteristics affect lending? new evidence based on credit registry data from Latin America. *Journal of Banking and Finance*, 135:105818.

Carrillo, J., Mondoza, E., Nuguer, V., and Roldán-Peña (2021). Tight money-tight credit: Coordination failure in the conduct of monetary and financial policies. *American Economic Journal: Macroeconomics*, 13:37–73.

Collard, F., Dellas, H., Diba, B., and Loisel, O. (2017). Optimal monetary and prudential policies. *American Economic Journal: Macroeconomics*, 9:40–87.

De Marco, F., Kneer, C., and Wieladek, T. (2021). The real effects of capital requirements and monetary policy: Evidence from the United Kingdom. *Journal of Banking and Finance*, 133:106237.

Defusco, A., Johnson, S., and Mondragon, J. (2020). Regulating household leverage. *Review of Economic Studies*, 87:914–958.

Degryse, H., De Jonghe, O., Jakovljević, S., Mulier, K., and Schepens, G. (2019). Identifying credit supply shocks with bank-firm data: Methods and applications. *Journal of Financial Intermediation*, 40:100813.

Dehmej, S. and Gambacorta, L. (2019). Macroprudential policy in a monetary union. *Comparative Economic Studies*, 61:195–212.

ECB (2023). The role of financial stability considerations in monetary policy and the interaction with macroprudential policy in the euro area. *Occasional Paper Series, No 272. European Central Bank*.

Gambacorta, L. (2005). Inside the bank lending channel. *European Economic Review*, 49:1737–1759.

Gambacorta, L. and Marques-Ibanez, D. (2011). The bank lending channel: lessons from the crisis. *Economic Policy*, 26:135–182.

Gambacorta, L. and Murcia, A. (2020). The impact of macroprudential policies in Latin America: an empirical analysis using credit registry data. *Journal of Financial Intermediation*, 42:100828.

Gomez, M., Landier, A., Sraer, D., and Thesmar, D. (2021). Banks' exposure to interest rate risk and the transmission of monetary policy. *Journal of Monetary Economics*, 117:543–570.

Imbierowicz, B., Löffler, A., and Vogel, U. (2020). The transmission of bank capital re-

quirements and monetary policy to bank lending in Germany. *Review of International Economics*, 29:144–164.

IMF (2013). The interactions of monetary and macroprudential policies. *Staff Report. International Monetary Fund*.

IMF (2020). Toward an integrated policy framework. *IMF Policy Paper 2020/46. International Monetary Fund*.

Jiménez, G., Ongena, S., Peydró, J.-L., and Saurina, J. (2012). Credit supply and monetary policy: Identifying the bank balance-sheet channel with loan applications. *American Economic Review*, 102(5):2301–2326.

Jiménez, G., Ongena, S., Peydró, J.-L., and Saurina, J. (2014). Hazardous times for monetary policy: What do twenty-three million bank loans say about the effects of monetary policy on credit risk-taking? *Econometrica*, 82(2):463–505.

Jiménez, G., Ongena, S., Peydró, J., and Saurina, J. (2017). Macroprudential policy, countercyclical bank capital buffers, and credit supply: Evidence from the Spanish dynamic provisioning experiments. *Journal of Political Economy*, 125:2126–2177.

Kashyap, A. and Stein, J. (2000). What do a million observations on banks say about the transmission of monetary policy? *American Economic Review*, 90:407–428.

Khwaja, A. I. and Mian, A. (2008). Tracing the impact of bank liquidity shocks: Evidence from an emerging market. *American Economic Review*, 98(4):1413–42.

Kishan, R. and Opiela, T. (2000). Bank size, bank capital, and the bank lending channel. *Journal of Money, Credit and Banking*, 32(1):121–141.

Laeven, L., Maddaloni, A., and Mendicino, C. (2022). Monetary policy, macroprudential policy and financial stability. *ECB Discussion Paper, No 2647. European Central Bank*.

Maddaloni, A. and Peydró, J.-L. (2011). Bank risk-taking, securitization, supervision, and low interest rates: Evidence from the euro-area and the us lending standards. *Review of Financial Studies*, 24(6):2121–2165.

Petersen, M. A. and Rajan, R. G. (1994). The benefits of lending relationships: Evidence from small business data. *Journal of Finance*, 49(1):3–37.

Poligrova, T. and Santos, J. A. (2017). Monetary policy and bank risk-taking: Evidence from the corporate loan market. *Journal of Financial Intermediation*, 30:35–49.

Stein, J. (2013). Overheating in credit markets: Origins, measurement, and policy responses. *Speech at a Research Symposium, Federal Reserve Bank of St.Louis*, February.

Van der Ghote, A. (2021). Interactions and coordination between monetary and macroprudential policies. *American Economic Journal: Macroeconomics*, 13:1–34.

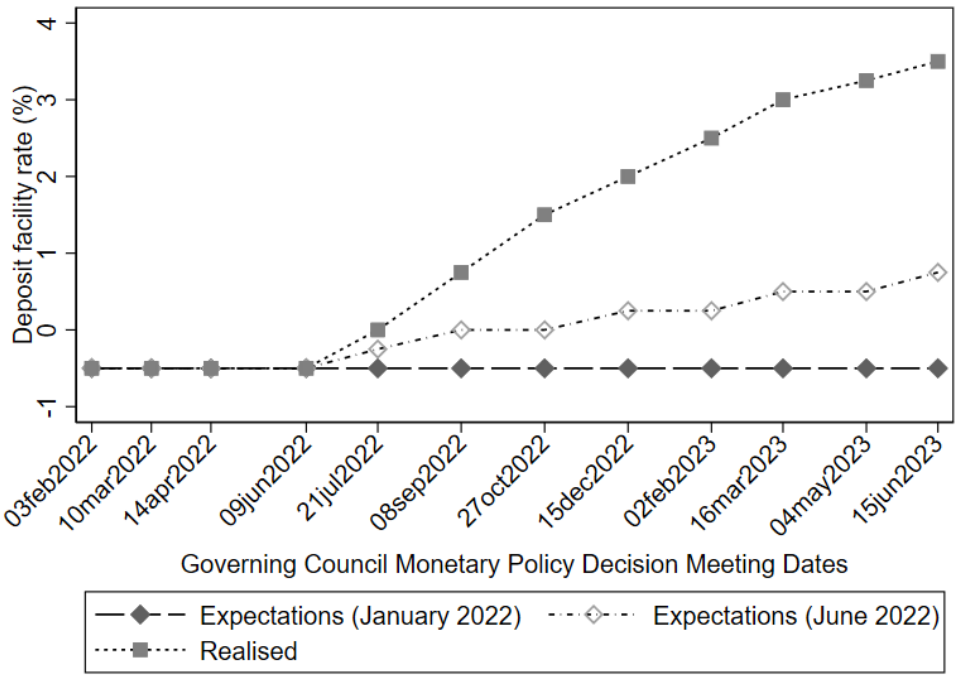


Figure 1: Expectations of market participants on the future evolution of the deposit facility rate.

Notes: Source(s): Survey of Monetary Analysts

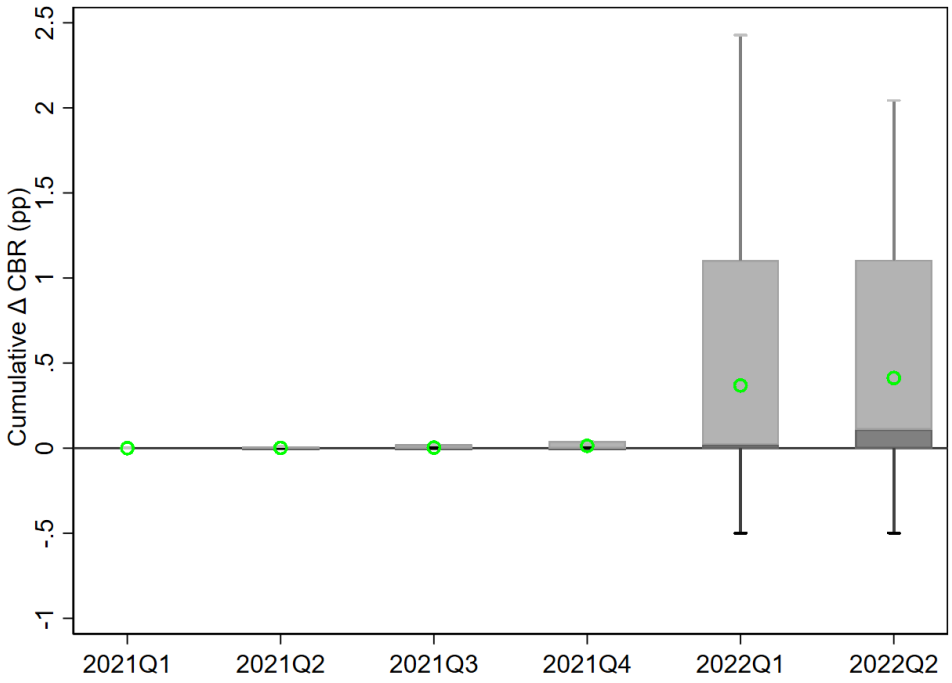


Figure 2: Cumulative ΔCBR over 2021Q2 - 2022Q2

Notes: This figure presents the box plots of the cumulative ΔCBR over 2021Q2 - 2022Q2. The light grey portion of the bar indicates the upper quartile while the dark grey the lower quartile. The upper (lower) whisker identifies values that are greater (smaller) than 1.5 the interquartile range. The green circle represents the mean.

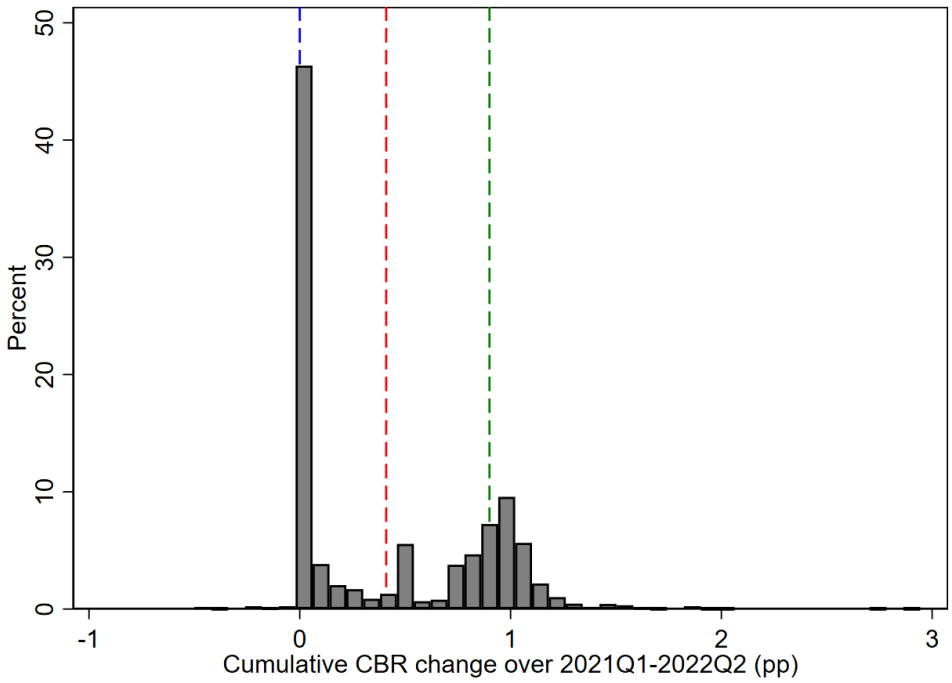


Figure 3: Distribution cumulative ΔCBR

Notes: The figure reports the distribution of cumulative ΔCBR across banks. The blue, red and green vertical dashed lines represent the median, the mean and the 75th percentile, respectively.

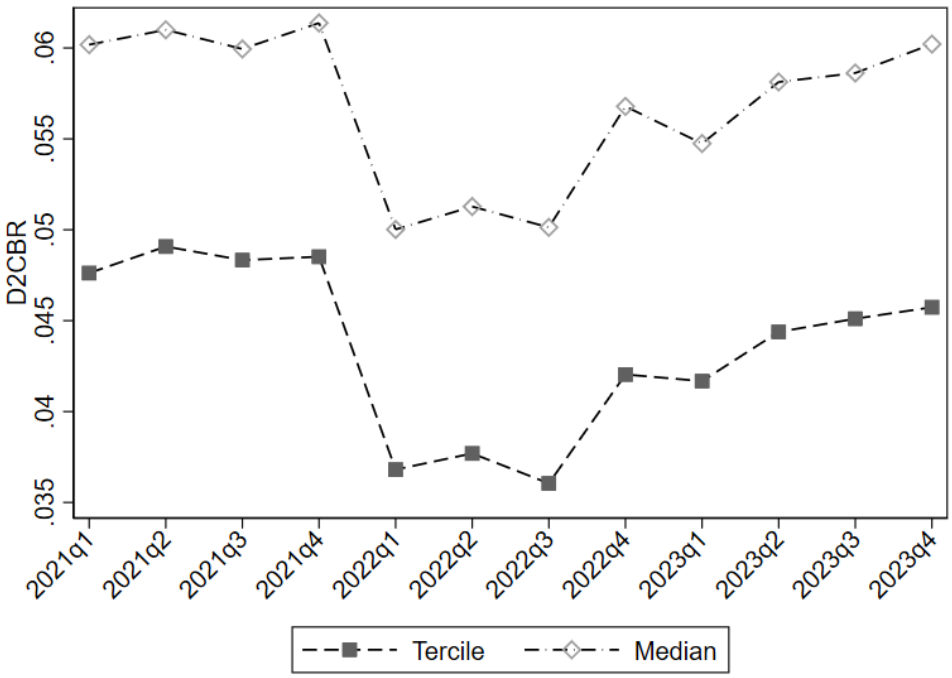


Figure 4: Distance to CBR for banks below the median and tercile

Notes: The figure represent the evolution of the distance to the CBR from the first quarter of 2021 to the last quarter of 2024. D2CBR on the y-axis indicate the distance to the CBR, computed as the difference between the CET1 ratio and the overall capital requirement ratio (including the Pillar 2 Guidance).

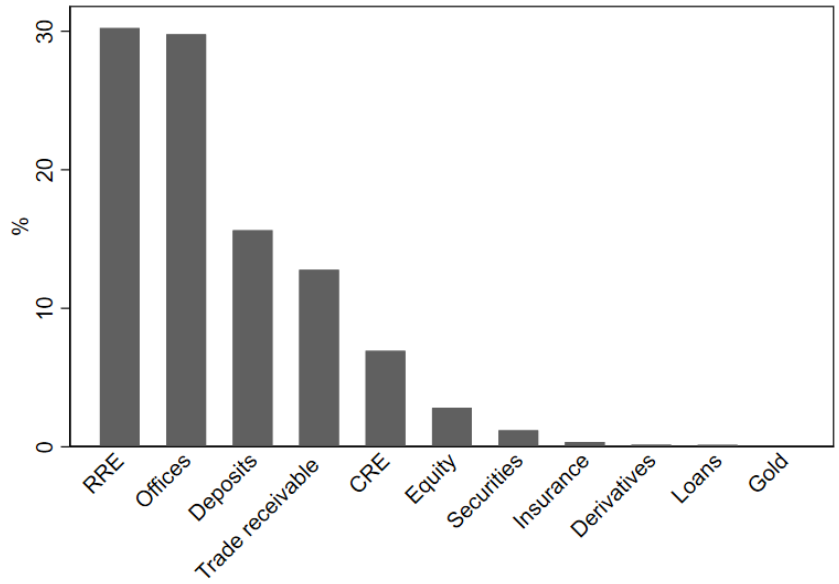


Figure 5: Collateral distribution

Notes: This figure presents the percentage of collateral by type. RRE refers to residential real estate while CRE to commercial real estate. The category "others" is omitted from the chart.

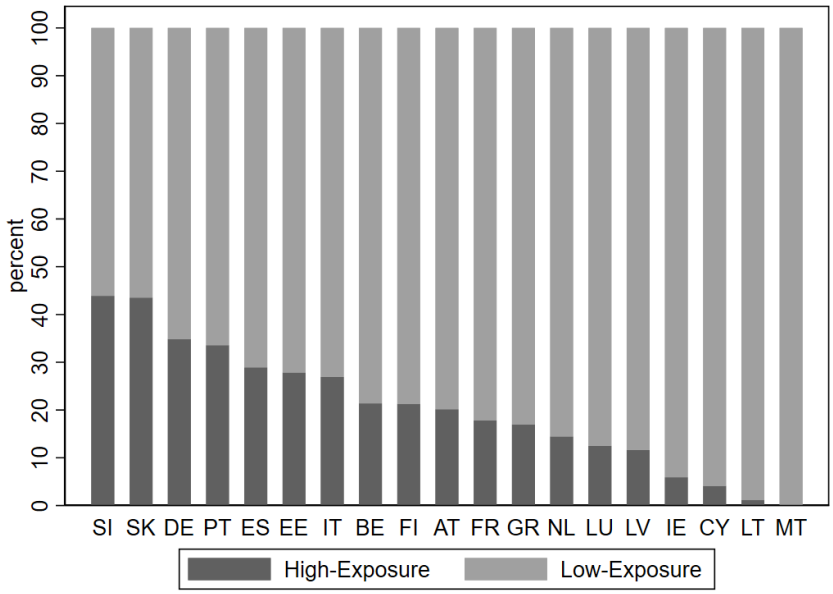


Figure 6: Pre-monetary policy tightening oustanding share NFCs borrowing by country

Notes: This figure displays the average share of total NFC borrowing by country. High-exposure firms (reported in dark grey) refer to the average share of total NFC borrowing from banks that, prior to the monetary policy tightening (2022Q2), had a positive increase in the CBR and are below the first tercile of the distance to the CBR distribution. Low-exposure firms (reported in light grey) indicates the average share of total NFC borrowing from banks that, prior to the monetary policy tightening (2022Q2), either did not face any increase in the CBR or face an increase in the CBR but are above the first tercile of the distance to the CBR distribution. Countries abbreviation are based on the 2-digit ISO code: AT (Austria), BE (Belgium), CY (Cyprus), DE (Germany), EE (Estonia), ES (Spain), FI (Finland), FR (France), GR (Greece), IE (Ireland), IT (Italy), LT (Lithuania), LU (Luxembourg), LV (Latvia), MT (Malta), NL (Netherlands), PT (Portugal), SI (Slovenia), SK (Slovakia).

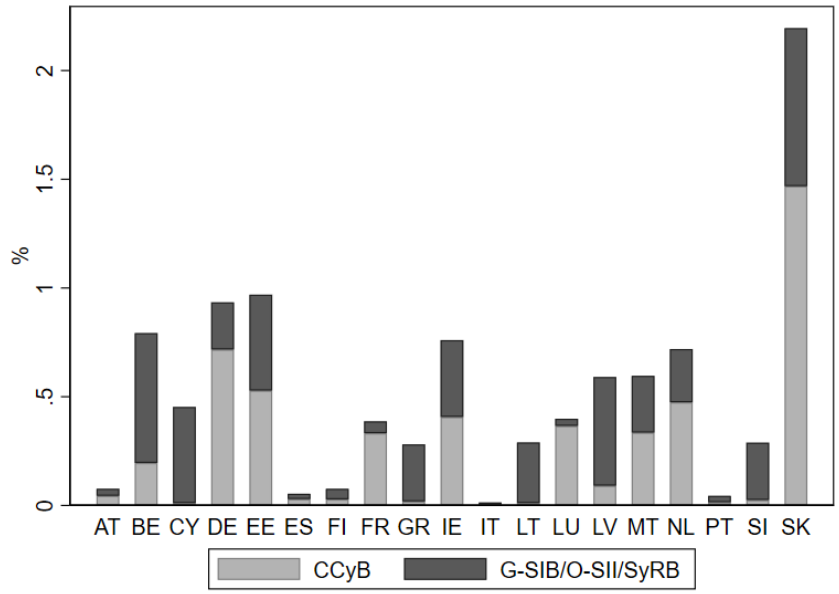


Figure 7: Bank-specific CCyB and G-SIB/O-SII/SyRB rate across countries

Notes: This figure displays the bank-specific CCyB rate (in light grey) and the sum of G-SIB/O-SII/SyRB rate (in dark grey) across euro area countries. Countries abbreviation are based on the 2-digit ISO code: AT (Austria), BE (Belgium), CY (Cyprus), DE (Germany), EE (Estonia), ES (Spain), FI (Finland), FR (France), GR (Greece), IE (Ireland), IT (Italy), LT (Lithuania), LU (Luxembourg), LV (Latvia), MT (Malta), NL (Netherlands), PT (Portugal), SI (Slovenia), SK (Slovakia).

Table 1: Definitions of variables and their sources

Variable	Label	Definition	Source
Endogeneous variables:			
Lending growth	Δ *ln* (loans)	Change in the natural logarithm of the outstanding amounts granted by bank b to firm f	AnaCredit
New Relationships	D(new rel)	Dummy variable equal to 1 if: a) at time t a new firm, which did not have a relationship in the previous quarter, enters the AnaCredit registry, and b) a firm that was in the sample in $t-1$, because it borrowed from the bank x, also starts borrowing from bank y at time t, and equal to 0 otherwise	AnaCredit
Loan-to-value	LTV	The ratio of loan volume to collateral value	AnaCredit
Commercial real estate	CRE dummy	Dummy variable equal to 1 for loans collateralized with commercial real and office estate and equal to 0 otherwise	AnaCredit
Liquid collateral	Liquid collateral dummy	Dummy variable equal to 1 for loans pledged by security and deposit collateral and equal to 0 otherwise	AnaCredit
Interest rate	Interest rate	Interest rate charged by bank b to firm f	AnaCredit
Variable of interest:			
Cumulative ΔCombined Buffer Requirement	Cum. ΔCBR	Cumulative announced CBR for bank b as of 2022-Q2	ECB Supervisory Data
Monetary policy	MP tightening	Dummy variable equal to 1 after 2022-Q2, and 0 before	Authors' computation
Monetary policy	ΔDFR	Cumulative change in the ECB deposit facility rate after 2022-Q2	Authors' computation
Distance to CBR	D(D2CBR)	Dummy variables indicating whether a bank's capital headroom (defined as the distance between the bank's current CTE1 ratio and the level of its combined buffer requirement) is in the lower tercile of the overall distribution	ECB Supervisory Data
Bank control variables:			
Bank size	*ln* (TA)	Natural logarithm of bank total assets	ECB Supervisory Data
Capital ratio	CET1_r	The common equity tier1 ratio	ECB Supervisory Data
Profitability	ROA	The ratio of net income to total assets	ECB Supervisory Data
Liquidity	Cash/TA	The ratio of cash (incl. cash held at the central bank) to total assets	ECB Supervisory Data
Funding structure	Deposits/TA	The ratio of deposits to total assets	ECB Supervisory Data
Non-performing loans	NPL ratio	The ratio of non-performing loans to gross loans	ECB Supervisory Data
Capital requirement	TSCR	Total Supervisory Review and Evaluation Process (SREP) capital requirement ratio	ECB Supervisory Data
Provisioning	PROV/TA	The ratio of provisions to total assets	ECB Supervisory Data
Loan level variables:			
Maturity	Maturity (log)	The natural logarithm of the original loan maturity measured in days	AnaCredit
Collateral	Collateral/loan	The ratio of collateral value to loan volume	AnaCredit
Impairment	Impairment_r	The ratio of impairments to loan volume	AnaCredit

Table 2: Descriptive statistics

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Panel A: Bank-level							
Cum. ΔCBR	20,724	0.004	0.004	-0.005	0.000	0.009	0.029
D(D2CBR<Tercile)	20,724	0.347	0.476	0.000	0.000	1.000	1.000
D2CBR	20,724	0.089	0.086	0.010	0.036	0.107	0.404
TA (log)	20,724	7.506	1.717	4.386	6.321	8.482	11.586
CET1_r	20,724	0.197	0.083	0.111	0.145	0.217	0.514
ROA	20,724	0.004	0.005	-0.008	0.001	0.006	0.018
CASH/TA	20,724	0.082	0.088	0.003	0.019	0.106	0.478
DEP/TA	20,724	0.857	0.077	0.502	0.849	0.897	0.933
NPLs	20,724	0.026	0.032	0.000	0.010	0.030	0.241
TSCR	20,724	0.083	0.015	0.054	0.075	0.091	0.125
PROV/TA	20,724	-0.000	0.001	-0.006	-0.000	0.000	0.003
Panel B: Bank-firm level							
Δ Ln (loans)	12,843,760	-0.026	0.185	-0.541	-0.071	0.000	0.614
D(new rel)	13,649,739	0.029	0.169	0.000	0.000	0.000	1.000
MP Tightening	12,843,760	0.554	0.497	0.000	0.000	1.000	1.000
Maturity (log)	12,843,760	7.783	0.666	5.899	7.501	8.203	9.119
Collateral/loan	12,843,760	1.619	1.718	0.000	0.753	1.900	8.923
Panel C: New loan-origination							
LTV	3,123,451	0.994	0.528	0.010	0.614	1.191	2.784

Table 3: Number of loans and banks by country

Country	N.obs	Percentage	N.banks
AT	241,837	1.88	415
BE	232,174	1.81	18
CY	12,398	0.10	10
DE	1,348,804	10.50	765
EE	10,499	0.08	7
ES	2,931,384	22.82	70
FI	341,722	2.66	143
FR	2,387,516	18.59	97
GR	95,802	0.75	13
IE	16,047	0.12	11
IT	4,259,743	33.17	208
LT	6,492	0.05	6
LU	34,721	0.27	42
LV	2,993	0.02	11
MT	1,946	0.02	7
NL	18,337	0.14	13
PT	837,677	6.52	102
SI	37,547	0.29	13
SK	26,121	0.20	8
TOT	12,843,760	100	1,959

Table 4: Intensive margin - multiple bank-relationships

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Δ ln (loans)					
	(1)	(2)	(3)	(4)	(5)	(6)
Cum. ΔCBR × MP Tightening	-1.1637	-0.5625	-0.9054	-0.6085	-0.1255	-0.2398
	(0.888)	(0.780)	(0.861)	(0.774)	(0.765)	(0.870)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-1.8141**	-1.6337**		-1.5181**	-1.3519**
		(0.723)	(0.774)		(0.594)	(0.644)
lnTA$_{t-1}$	0.0079	0.0093	0.0174	0.0008	0.0027	0.0040
	(0.009)	(0.008)	(0.011)	(0.008)	(0.007)	(0.009)
CET1$_{t-1}$	-0.0278	-0.0159	-0.0530	-0.0663*	-0.0383	-0.0832**
	(0.044)	(0.046)	(0.054)	(0.037)	(0.038)	(0.041)
ROA$_{t-1}$	0.8973***	0.8172***	0.6179**	0.7604**	0.7037**	0.6157**
	(0.318)	(0.305)	(0.259)	(0.347)	(0.320)	(0.299)
CASH/TA$_{t-1}$	-0.0004	-0.0010	0.0094	0.0020	-0.0016	0.0159
	(0.039)	(0.039)	(0.039)	(0.043)	(0.043)	(0.043)
DEP/TA$_{t-1}$	0.0560	0.0289	0.0160	0.0301	0.0179	-0.0074
	(0.056)	(0.050)	(0.052)	(0.052)	(0.051)	(0.052)
NPLs$_{t-1}$	0.0355	0.0175	0.0191	0.0193	0.0072	0.0222
	(0.063)	(0.060)	(0.068)	(0.088)	(0.083)	(0.096)
TSCR$_{t-1}$	0.1895	0.1771	-0.0318	-0.0909	-0.1068	-0.3010
	(0.181)	(0.192)	(0.196)	(0.204)	(0.214)	(0.224)
PROV/TA$_{t-1}$	0.3515	0.3467	0.6337	-0.3221	-0.2355	-0.1120
	(0.538)	(0.538)	(0.506)	(0.931)	(0.952)	(1.034)
lnTA$_{t-1}$ × MP Tightening				-0.0005	-0.0011	-0.0013
				(0.001)	(0.001)	(0.001)
CET1$_{t-1}$ × MP Tightening				0.0378	0.0090	-0.0065
				(0.024)	(0.025)	(0.034)
ROA$_{t-1}$ × MP Tightening				0.1707	0.1671	0.0293
				(0.305)	(0.285)	(0.307)
CASH/TA$_{t-1}$ × MP Tightening				0.0040	0.0088	0.0120
				(0.019)	(0.018)	(0.021)
DEP/TA$_{t-1}$ × MP Tightening				-0.0076	-0.0120	0.0153
				(0.014)	(0.015)	(0.018)
NPLs$_{t-1}$ × MP Tightening				-0.0025	0.0021	0.0219
				(0.070)	(0.068)	(0.075)
TSCR$_{t-1}$ × MP Tightening				0.4150***	0.4072***	0.4485***
				(0.100)	(0.093)	(0.111)
PROV/TA$_{t-1}$ × MP Tightening				1.2070	1.1220	1.0951
				(1.159)	(1.142)	(1.219)
Maturity (log)	-0.0016	-0.0016	-0.0556***	-0.0016	-0.0016	-0.0559***
	(0.002)	(0.002)	(0.011)	(0.002)	(0.002)	(0.011)
Collateral/loan	-0.0146***	-0.0146***	-0.0384***	-0.0146***	-0.0146***	-0.0385***
	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)	(0.003)
Observations	12,843,760	12,841,651	12,673,110	12,843,760	12,841,651	12,673,110
Bank FE	Yes	Yes	No	Yes	Yes	No
Firm × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Firm FE	No	No	Yes	No	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank

Table 5: Extensive margin - new firms with pre-existing credit relationships

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: D(new rel)					
	(1)	(2)	(3)	(4)	(5)	(6)
Cum. ΔCBR × MP Tightening	-1.7457**	-0.3082	1.1696	-0.7440	0.3627	1.5218
	(0.790)	(0.750)	(0.969)	(0.691)	(0.798)	(1.007)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-4.3831***	-3.1389**		-3.9121***	-2.5788**
		(1.380)	(1.441)		(1.273)	(1.286)
$lnTA_{t-1}$	-0.0020	-0.0039	-0.0807***	-0.0138	-0.0177	-0.0966***
	(0.028)	(0.027)	(0.028)	(0.027)	(0.025)	(0.026)
$CET1_{t-1}$	0.0376	0.0280	0.0749	0.0029	-0.0336	-0.0563
	(0.067)	(0.060)	(0.064)	(0.060)	(0.071)	(0.080)
ROA_{t-1}	0.0203***	0.0203***	0.0282***	0.0241***	0.0239***	0.0393***
	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.008)
$CASH/TA_{t-1}$	0.1017*	0.0990*	0.1143*	0.1134*	0.1082*	0.1320**
	(0.057)	(0.055)	(0.059)	(0.063)	(0.062)	(0.066)
DEP/TA_{t-1}	-0.0127	0.0034	-0.0506	-0.0268	-0.0174	-0.0671
	(0.078)	(0.064)	(0.080)	(0.070)	(0.063)	(0.081)
$NPLs_{t-1}$	-0.0002	-0.0001	-0.0019*	0.0003	0.0004	-0.0006
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
$TSCR_{t-1}$	-0.0978	-0.0768	-0.3950**	-0.3115*	-0.2205	-0.2976*
	(0.198)	(0.217)	(0.175)	(0.187)	(0.188)	(0.167)
$PROV/TA_{t-1}$	0.0754	0.5434	-0.1731	0.8102	0.5747	-0.2428
	(1.311)	(1.310)	(1.247)	(2.190)	(2.251)	(2.232)
$lnTA_{t-1}$ × MP Tightening				-0.0005	-0.0014	0.0008
				(0.001)	(0.001)	(0.002)
$CET1_{t-1}$ × MP Tightening				-0.0125	0.0327	0.1508***
				(0.029)	(0.046)	(0.054)
ROA_{t-1} × MP Tightening				-0.0084	-0.0079	-0.0233***
				(0.005)	(0.005)	(0.005)
$CASH/TA_{t-1}$ × MP Tightening				-0.0082	0.0084	0.0277
				(0.035)	(0.033)	(0.039)
DEP/TA_{t-1} × MP Tightening				0.0197	0.0234	0.0514*
				(0.027)	(0.024)	(0.029)
$NPLs_{t-1}$ × MP Tightening				-0.0001	-0.0002	-0.0016*
				(0.001)	(0.001)	(0.001)
$TSCR_{t-1}$ × MP Tightening				0.5140***	0.3633***	0.1332
				(0.145)	(0.128)	(0.169)
$PROV/TA_{t-1}$ × MP Tightening				-1.4796	-0.3847	0.0733
				(1.860)	(1.964)	(2.149)
Maturity (log)	-0.0186***	-0.0186***	-0.0108***	-0.0187***	-0.0186***	-0.0111***
	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)	(0.002)
Collateral/loan	-0.0012***	-0.0012***	0.0017***	-0.0012***	-0.0012***	0.0016***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
Observations	13,649,739	13,647,148	13,465,239	13,649,739	13,647,148	13,465,239
Bank FE	Yes	Yes	No	Yes	Yes	No
Firm × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Firm FE	No	No	Yes	No	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank

Table 6: New lending - Monetary Policy Pass-through

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Interest rate			
	(1)	(2)	(3)	(4)
Cum. ΔCBR × MP Tightening	0.5096**	0.6323***	0.1843	0.3082
	(0.250)	(0.232)	(0.229)	(0.200)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-0.6744*		-0.5189*
		(0.367)		(0.315)
$lnTA_{t-1}$	-0.0033	-0.0024	-0.0011	-0.0006
	(0.004)	(0.003)	(0.003)	(0.003)
$CET1_{t-1}$	-0.0105	-0.0071	-0.0292**	-0.0225**
	(0.011)	(0.010)	(0.012)	(0.010)
ROA_{t-1}	-0.1106	-0.1607*	0.0032	-0.0449
	(0.079)	(0.085)	(0.107)	(0.115)
$CASH/TA_{t-1}$	-0.0154*	-0.0135*	0.0027	0.0022
	(0.008)	(0.008)	(0.007)	(0.007)
DEP/TA_{t-1}	-0.0140	-0.0188	-0.0100	-0.0127
	(0.018)	(0.016)	(0.015)	(0.014)
$NPLs_{t-1}$	-0.0052	-0.0019	0.0163	0.0165
	(0.031)	(0.029)	(0.032)	(0.031)
$TSCR_{t-1}$	-0.1010	-0.1161	-0.0873	-0.0950
	(0.080)	(0.076)	(0.065)	(0.061)
$PROV/TA_{t-1}$	-0.0882***	-0.0865***	-0.2905**	-0.2187*
	(0.021)	(0.023)	(0.118)	(0.120)
$lnTA_{t-1}$ × MP Tightening			0.0015***	0.0014***
			(0.000)	(0.000)
$CET1_{t-1}$ × MP Tightening			0.0424***	0.0348***
			(0.009)	(0.008)
ROA_{t-1} × MP Tightening			-0.2663**	-0.2245*
			(0.128)	(0.129)
$CASH/TA_{t-1}$ × MP Tightening			-0.0265***	-0.0255***
			(0.007)	(0.007)
DEP/TA_{t-1} × MP Tightening			0.0093*	0.0083*
			(0.005)	(0.005)
$NPLs_{t-1}$ × MP Tightening			-0.0117	-0.0098
			(0.022)	(0.022)
$TSCR_{t-1}$ × MP Tightening			-0.0416	-0.0440
			(0.036)	(0.032)
$PROV/TA_{t-1}$ × MP Tightening			0.2185*	0.1503
			(0.132)	(0.131)
Maturity (log)	-0.0015***	-0.0015***	-0.0015***	-0.0015***
	(0.000)	(0.000)	(0.000)	(0.000)
Impairment_r	0.0124***	0.0124***	0.0124***	0.0123***
	(0.003)	(0.003)	(0.003)	(0.003)
Observations	6,815,337	6,815,012	6,815,337	6,815,012
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Table 7: New lending - LTV

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: LTV			
	(1)	(2)	(3)	(4)
Cum. ΔCBR × MP Tightening	-4.7449*	-2.5437	-4.2871**	-2.0275
	(2.783)	(1.802)	(1.742)	(1.550)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-12.4299*		-13.7922**
		(7.054)		(6.449)
lnTA$_{t-1}$	0.1704***	0.1698***	0.2090***	0.2136***
	(0.059)	(0.055)	(0.066)	(0.066)
CET1$_{t-1}$	0.1901	0.2098	0.2159	0.3409*
	(0.168)	(0.155)	(0.215)	(0.206)
ROA$_{t-1}$	-2.5203	-3.0908*	-1.2936	-2.0084
	(1.588)	(1.616)	(1.796)	(1.771)
CASH/TA$_{t-1}$	-0.2476**	-0.2591**	-0.2723**	-0.2907**
	(0.109)	(0.106)	(0.126)	(0.126)
DEP/TA$_{t-1}$	0.1016	0.0943	0.1847	0.1946
	(0.363	(0.353)	(0.413)	(0.402)
NPLs$_{t-1}$	0.4650	0.5527	0.3077	0.3896
	(0.387)	(0.359)	(0.357)	(0.338)
TSCR$_{t-1}$	-1.1761	-1.5300	0.1159	-0.2969
	(1.768)	(1.742)	(1.587)	(1.560)
PROV/TA$_{t-1}$	0.9318	1.0706	2.9331	4.0786
	(2.017)	(2.014)	(3.257)	(3.490)
lnTA$_{t-1}$ × MP Tightening			-0.0163**	-0.0158*
			(0.008)	(0.008)
CET1$_{t-1}$ × MP Tightening			-0.1497	-0.2909
			(0.221)	(0.227)
ROA$_{t-1}$ × MP Tightening			-2.9435	-2.6736
			(2.444)	(2.341)
CASH/TA$_{t-1}$ × MP Tightening			0.0274	0.0383
			(0.084)	(0.084)
DEP/TA$_{t-1}$ × MP Tightening			-0.2300	-0.2334
			(0.148)	(0.153)
NPLs$_{t-1}$ × MP Tightening			0.2806	0.3559*
			(0.191)	(0.187)
TSCR$_{t-1}$ × MP Tightening			-1.4351***	-1.3048***
			(0.453)	(0.419)
PROV/TA$_{t-1}$ × MP Tightening			-3.9759	-5.4549
			(3.144)	(3.404)
Maturity (log)	-0.0085	-0.0083	-0.0087	-0.0085
	(0.008)	(0.008)	(0.008)	(0.008)
Impairment_r	-0.0064	-0.0064	-0.0072	-0.0072
	(0.050)	(0.050)	(0.049)	(0.049)
Observations	3,123,451	3,123,133	3,123,451	3,123,133
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Collateral FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Table 8: New lending - CRE collateral

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: CRE dummy			
	(1)	(2)	(3)	(4)
Cum. ΔCBR × MP Tightening	-1.3314***	-1.3306**	-2.1139***	-2.1408***
	(0.509)	(0.569)	(0.554)	(0.565)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-0.1629		-0.0132
		(1.738)		(1.766)
$lnTA_{t-1}$	-0.0199**	-0.0209***	-0.0120	-0.0134*
	(0.008)	(0.008)	(0.008)	(0.008)
$CET1_{t-1}$	-0.0315	-0.0227	-0.0284	-0.0352
	(0.030)	(0.029)	(0.034)	(0.033)
ROA_{t-1}	-0.4599**	-0.4484**	-0.1593	-0.1299
	(0.202)	(0.193)	(0.258)	(0.245)
$CASH/TA_{t-1}$	0.0170	0.0173	0.0382	0.0400
	(0.020)	(0.019)	(0.026)	(0.027)
DEP/TA_{t-1}	0.0465	0.0428	0.0644*	0.0597*
	(0.037)	(0.036)	(0.034)	(0.034)
$NPLs_{t-1}$	-0.0801	-0.0812	-0.1003	-0.0977
	(0.068)	(0.067)	(0.076)	(0.075)
$TSCR_{t-1}$	-0.0962	-0.1139	0.0129	-0.0007
	(0.177)	(0.172)	(0.175)	(0.170)
$PROV/TA_{t-1}$	0.6720*	0.7026**	0.2689	0.1664
	(0.353)	(0.349)	(0.347)	(0.343)
$lnTA_{t-1}$ × MP Tightening			0.0029***	0.0027***
			(0.001)	(0.001)
$CET1_{t-1}$ × MP Tightening			0.0352	0.0523**
			(0.024)	(0.025)
ROA_{t-1} × MP Tightening			-0.6626**	-0.7011***
			(0.260)	(0.258)
$CASH/TA_{t-1}$ × MP Tightening			-0.0536**	-0.0566**
			(0.024)	(0.025)
DEP/TA_{t-1} × MP Tightening			0.0016	-0.0001
			(0.012)	(0.013)
$NPLs_{t-1}$ × MP Tightening			0.1116**	0.0915*
			(0.053)	(0.052)
$TSCR_{t-1}$ × MP Tightening			-0.2192**	-0.2319**
			(0.098)	(0.102)
$PROV/TA_{t-1}$ × MP Tightening			1.0241*	1.2233**
			(0.575)	(0.583)
Maturity (log)	0.0162***	0.0162***	0.0162***	0.0162***
	(0.002)	(0.002)	(0.002)	(0.002)
Impairment_r	0.0080	0.0080	0.0078	0.0078
	(0.011)	(0.011)	(0.011)	(0.011)
Observations	3,441,951	3,441,633	3,441,951	3,441,633
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Table 9: New lending - Liquid collaterals

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Liquid collateral dummy			
	(1)	(2)	(3)	(4)
Cum. ΔCBR × MP Tightening	4.8063**	3.5443*	3.3409**	2.5505*
	(2.363)	(1.861)	(1.416)	(1.329)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-0.1889		-0.9794
		(2.319)		(2.319)
$lnTA_{t-1}$	-0.0563	-0.0557	-0.0467	-0.0455
	(0.068)	(0.069)	(0.072)	(0.072)
$CET1_{t-1}$	-0.1980**	-0.1471**	-0.1906**	-0.1800**
	(0.083)	(0.058)	(0.086)	(0.079)
ROA_{t-1}	-1.7071	-1.7236	-0.5787	-0.6160
	(1.409)	(1.440)	(0.670)	(0.687)
$CASH/TA_{t-1}$	-0.2751**	-0.2586**	-0.2664***	-0.2577***
	(0.123)	(0.111)	(0.098)	(0.095)
DEP/TA_{t-1}	0.3393*	0.3204	0.3875*	0.3707*
	(0.197)	(0.201)	(0.226)	(0.223)
$NPLs_{t-1}$	0.3099*	0.2990*	0.2719*	0.2583
	(0.186)	(0.175)	(0.165)	(0.161)
$TSCR_{t-1}$	0.0580	0.0418	1.3289*	1.2444*
	(0.261)	(0.271)	(0.749)	(0.712)
$PROV/TA_{t-1}$	0.7364	0.8196	2.3343**	2.2462**
	(0.537)	(0.576)	(1.097)	(1.072)
$lnTA_{t-1}$ × MP Tightening			-0.0002	-0.0008
			(0.002)	(0.002)
$CET1_{t-1}$ × MP Tightening			0.1320	0.1486
			(0.101)	(0.099)
ROA_{t-1} × MP Tightening			-2.4313	-2.4171
			(2.274)	(2.227)
$CASH/TA_{t-1}$ × MP Tightening			0.0282	0.0251
			(0.041)	(0.037)
DEP/TA_{t-1} × MP Tightening			0.0669	0.0432
			(0.061)	(0.052)
$NPLs_{t-1}$ × MP Tightening			0.1623*	0.1402*
			(0.094)	(0.082)
$TSCR_{t-1}$ × MP Tightening			-1.2736**	-1.2443**
			(0.610)	(0.585)
$PROV/TA_{t-1}$ × MP Tightening			-3.3723**	-3.0873**
			(1.473)	(1.364)
Maturity (log)	-0.0052	-0.0051	-0.0051	-0.0051
	(0.004)	(0.004)	(0.004)	(0.004)
Impairment_r	-0.0022	-0.0023	-0.0028	-0.0029
	(0.002)	(0.002)	(0.002)	(0.002)
Observations	3,441,951	3,441,633	3,441,951	3,441,633
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Table 10: Firm-level

This table shows the results of the firm-level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Δ ln (borrowing)		
	(1)	(2)	(3)
High exposure	0.0086***	0.0061***	
	(0.001)	(0.002)	
High exposure × MP Tightening	-0.0116***	-0.0099***	-0.0056*
	(0.002)	(0.002)	(0.003)
wlnTA$_{t-1}$	-0.0024***	-0.0026***	-0.0096**
	(0.000)	(0.000)	(0.004)
wCET1$_{t-1}$	0.0112	-0.0036	-0.0963**
	(0.015)	(0.016)	(0.042)
wROA$_{t-1}$	0.5475**	0.5118**	0.8875***
	(0.217)	(0.247)	(0.335)
wCASH/TA$_{t-1}$	0.0087	0.0127	0.0362
	(0.013)	(0.016)	(0.025)
wDEP/TA$_{t-1}$	-0.0158	-0.0196	0.0164
	(0.013)	(0.019)	(0.069)
wNPLs$_{t-1}$	0.0244	-0.0521	-0.0503
	(0.047)	(0.055)	(0.101)
wTSCR$_{t-1}$	-0.1200*	0.0322	0.1755
	(0.064)	(0.076)	(0.278)
wPROVISIONS/TA$_{t-1}$	0.0433	-0.1239	0.4393
	(0.827)	(0.961)	(0.873)
wMaturity (log)		0.0036**	-0.0388***
		(0.001)	(0.007)
wCollateral/loan		-0.0111***	-0.0237***
		(0.000)	(0.001)
Observations	27,138,055	23,221,204	23,071,764
ILS × Time FE	Yes	Yes	Yes
Firm FE	No	No	Yes
Cluster S.E.	Largest lender	Largest lender	Largest lender

Table 11: Intensive margin - CCyB

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Δ ln (loans)					
	(1)	(2)	(3)	(4)	(5)	(6)
CCyB (2022-Q2) × MP Tightening	1.0361	1.3660	1.0969	1.8279	2.0851	2.1760
	(1.201)	(1.167)	(0.936)	(1.240)	(1.318)	(1.355)
CCyB (2022-Q2) × MP Tightening × D(D2CBR<Tercile)		-1.3807*	-1.2885*		-0.7830	-0.8559
		(0.736)	(0.789)		(0.623)	(0.692)
lnTA$_{t-1}$	0.0084	0.0097	0.0182*	0.0008	0.0025	0.0041
	(0.009)	(0.009)	(0.011)	(0.008)	(0.007)	(0.009)
CET1$_{t-1}$	-0.0244	-0.0126	-0.0509	-0.0592	-0.0321	-0.0773*
	(0.045)	(0.047)	(0.055)	(0.039)	(0.039)	(0.042)
ROA$_{t-1}$	0.8783***	0.8211***	0.6379**	0.7232**	0.6857**	0.6085**
	(0.297)	(0.284)	(0.249)	(0.327)	(0.305)	(0.295)
CASH/TA$_{t-1}$	0.0020	0.0026	0.0116	0.0008	0.0009	0.0171
	(0.041)	(0.042)	(0.041)	(0.042)	(0.043)	(0.043)
DEP/TA$_{t-1}$	0.0436	0.0214	0.0100	0.0148	0.0053	-0.0199
	(0.052)	(0.049)	(0.052)	(0.047)	(0.047)	(0.051)
NPLs$_{t-1}$	0.0300	0.0157	0.0188	0.0022	-0.0045	0.0101
	(0.062)	(0.060)	(0.070)	(0.086)	(0.083)	(0.097)
TSCR$_{t-1}$	0.2120	0.2008	-0.0026	-0.1062	-0.1382	-0.3274
	(0.167)	(0.180)	(0.185)	(0.187)	(0.198)	(0.212)
PROV/TA$_{t-1}$	0.3889	0.3181	0.6012	-0.1436	-0.0740	0.0301
	(0.543)	(0.530)	(0.484)	(0.974)	(0.985)	(1.066)
lnTA$_{t-1}$ × MP Tightening				-0.0007	-0.0009	-0.0012
				(0.001)	(0.001)	(0.001)
CET1$_{t-1}$ × MP Tightening				0.0374*	0.0102	-0.0055
				(0.022)	(0.025)	(0.035)
ROA$_{t-1}$ × MP Tightening				0.1535	0.1360	-0.0057
				(0.310)	(0.304)	(0.329)
CASH/TA$_{t-1}$ × MP Tightening				0.0079	0.0081	0.0115
				(0.019)	(0.019)	(0.022)
DEP/TA$_{t-1}$ × MP Tightening				0.0182	0.0217	0.0419
				(0.067)	(0.065)	(0.074)
NPLs$_{t-1}$ × MP Tightening				-0.0025	0.0021	0.0219
				(0.070)	(0.068)	(0.075)
TSCR$_{t-1}$ × MP Tightening				0.4550***	0.4730***	0.5116***
				(0.104)	(0.103)	(0.125)
PROV/TA$_{t-1}$ × MP Tightening				0.9486	0.7642	0.7971
				(1.213)	(1.238)	(1.321)
Maturity (log)	-0.0016	-0.0016	-0.0555***	-0.0016	-0.0016	-0.0559***
	(0.002)	(0.002)	(0.011)	(0.002)	(0.002)	(0.011)
Collateral/loan	-0.0146***	-0.0146***	-0.0383***	-0.0146***	-0.0146***	-0.0385***
	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)	(0.003)
Observations	12,843,760	12,841,651	12,673,110	12,843,760	12,841,651	12,673,110
Bank FE	Yes	Yes	No	Yes	Yes	No
Firm × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Firm FE	No	No	Yes	No	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank

Table 12: Extensive margin - CCyB

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: D(new rel)					
	(1)	(2)	(3)	(4)	(5)	(6)
CCyB (2022-Q2) × MP Tightening	-0.0070	1.0406	1.0084	1.3799	2.2566*	2.3141*
	(1.011)	(1.240)	(1.268)	(1.082)	(1.208)	(1.245)
CCyB (2022-Q2) × MP Tightening × D(D2CBR<Tercile)		-3.4396**	-3.4788**		-2.9070**	-2.9181**
		(1.407)	(1.415)		(1.365)	(1.376)
lnTA$_{t-1}$	-0.0020	-0.0034	-0.0795***	-0.0140	-0.0180	-0.0963***
	(0.029)	(0.027)	(0.028)	(0.028)	(0.025)	(0.026)
CET1$_{t-1}$	0.0336	0.0277	0.0839	0.0074	-0.0280	-0.0455
	(0.066)	(0.059)	(0.062)	(0.060)	(0.069)	(0.078)
ROA$_{t-1}$	2.0414***	2.0914***	2.8079***	2.3801***	2.4291***	3.9085***
	(0.575)	(0.587)	(0.648)	(0.716)	(0.726)	(0.797)
CASH/TA$_{t-1}$	0.1048*	0.1048*	0.1167*	0.1127*	0.1155*	0.1380**
	(0.059)	(0.060)	(0.061)	(0.063)	(0.066)	(0.068)
DEP/TA$_{t-1}$	-0.0208	0.0046	-0.0552	-0.0397	-0.0244	-0.0772
	(0.078)	(0.068)	(0.081)	(0.070)	(0.064)	(0.081)
NPLs$_{t-1}$	-0.0234	-0.0017	-0.1927*	0.0122	0.0368	-0.0665
	(0.073)	(0.066)	(0.107)	(0.093)	(0.092)	(0.121)
TSCR$_{t-1}$	-0.0630	-0.0438	-0.4047**	-0.3231*	-0.2639	-0.3568**
	(0.204)	(0.227)	(0.180)	(0.187)	(0.188)	(0.168)
PROV/TA$_{t-1}$	0.0723	0.3969	-0.2684	0.9646	0.7181	-0.2306
	(1.308)	(1.291)	(1.220)	(2.220)	(2.274)	(2.219)
lnTA$_{t-1}$ × MP Tightening				-0.0007	-0.0009	0.0013
				(0.001)	(0.001)	(0.002)
CET1$_{t-1}$ × MP Tightening				-0.0133	0.0339	0.1521***
				(0.028)	(0.046)	(0.054)
ROA$_{t-1}$ × MP Tightening				-0.8582	-0.8552	-2.3741***
				(0.534)	(0.537)	(0.538)
CASH/TA$_{t-1}$ × MP Tightening				-0.0046	0.0022	0.0190
				(0.035)	(0.035)	(0.041)
DEP/TA$_{t-1}$ × MP Tightening				0.0217	0.0292	0.0567**
				(0.026)	(0.024)	(0.028)
NPLs$_{t-1}$ × MP Tightening				0.0046	-0.0044	-0.1356*
				(0.074)	(0.078)	(0.082)
TSCR$_{t-1}$ × MP Tightening				0.5534***	0.4601***	0.1963
				(0.146)	(0.136)	(0.177)
PROV/TA$_{t-1}$ × MP Tightening				-1.7174	-0.8612	-0.1022
				(1.899)	(2.061)	(2.188)
Maturity (log)	-0.0186***	-0.0186***	-0.0108***	-0.0187***	-0.0186***	-0.0111***
	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)	(0.003)
Collateral/loan	-0.0012***	-0.0012***	0.0017***	-0.0012***	-0.0012***	0.0017***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
	13,649,739	13,647,148	13,465,239	13,649,739	13,647,148	13,465,239
Bank FE	Yes	Yes	No	Yes	Yes	No
Firm × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Firm FE	No	No	Yes	No	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank

Table 13: LTV - CCyB

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: LTV			
	(1)	(2)	(3)	(4)
CCyB (2022-Q2) × MP Tightening	-6.8647	-4.1310	-5.9632**	-2.3836
	(4.451)	(2.968)	(2.805)	(3.017)
CCyB (2022-Q2) × MP Tightening × D(D2CBR<Tercile)		-15.9271		-19.6127*
		(9.706)		(10.559)
lnTA$_{t-1}$	0.1704***	0.1720***	0.2098***	0.2162***
	(0.060)	(0.056)	(0.066)	(0.065)
CET1$_{t-1}$	0.1334	0.1729	0.1666	0.3082
	(0.157)	(0.149)	(0.216)	(0.202)
ROA$_{t-1}$	-2.2972	-2.7842*	-1.0861	-1.6010
	(1.579)	(1.571)	(1.798)	(1.749)
CASH/TA$_{t-1}$	-0.2382**	-0.2437**	-0.2686**	-0.2766**
	(0.107)	(0.103)	(0.125)	(0.125)
DEP/TA$_{t-1}$	0.0897	0.0797	0.1704	0.1740
	(0.354)	(0.341)	(0.401)	(0.383)
NPLs$_{t-1}$	0.4902	0.6227*	0.3361	0.4810
	(0.377)	(0.360)	(0.340)	(0.340)
TSCR$_{t-1}$	-1.0485	-1.5379	0.2313	-0.2538
	(1.715)	(1.765)	(1.559)	(1.546)
PROV/TA$_{t-1}$	0.9347	1.0165	2.8355	4.1401
	(2.028)	(2.026)	(3.261)	(3.585)
lnTA$_{t-1}$ × MP Tightening			-0.0163*	-0.0168*
			(0.008)	(0.009)
CET1$_{t-1}$ × MP Tightening			-0.1467	-0.2888
			(0.231)	(0.234)
ROA$_{t-1}$ × MP Tightening			-2.9699	-2.8731
			(2.416)	(2.311)
CASH/TA$_{t-1}$ × MP Tightening			0.0328	0.0434
			(0.083)	(0.082)
DEP/TA$_{t-1}$ × MP Tightening			-0.2291	-0.2345
			(0.149)	(0.153)
NPLs$_{t-1}$ × MP Tightening			0.2331	0.2625
			(0.197)	(0.198)
TSCR$_{t-1}$ × MP Tightening			-1.4575***	-1.3879***
			(0.458)	(0.415)
PROV/TA$_{t-1}$ × MP Tightening			-3.7611	-5.6700
			(3.138)	(3.542)
Maturity (log)	-0.0086	-0.0084	-0.0088	-0.0086
	(0.008)	(0.008)	(0.008)	(0.008)
Impairment_r	-0.0062	-0.0060	-0.0070	-0.0070
	(0.050)	(0.050)	(0.049)	(0.049)
Observations	3,123,451	3,123,133	3,123,451	3,123,133
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Collateral FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Table 14: CRE collateral - CCyB

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: CRE dummy			
	(1)	(2)	(3)	(4)
CCyB (2022-Q2)× MP Tightening	-0.4860	-0.1892	-1.4485**	-1.2028**
	(0.462)	(0.538)	(0.594)	(0.582)
CCyB (2022-Q2) × MP Tightening × D(D2CBR<Tercile)		-0.6059		-0.4185
		(2.384)		(2.466)
lnTA$_{t-1}$	-0.0193**	-0.0204**	-0.0128	-0.0146*
	(0.008)	(0.008)	(0.008)	(0.008)
CET1$_{t-1}$	-0.0431	-0.0357	-0.0469	-0.0547*
	(0.031)	(0.030)	(0.034)	(0.033)
ROA$_{t-1}$	-0.4329**	-0.4285**	-0.1165	-0.0980
	(0.202)	(0.205)	(0.258)	(0.252)
CASH/TA$_{t-1}$	0.0157	0.0143	0.0382	0.0387
	(0.019)	(0.019)	(0.026)	(0.026)
DEP/TA$_{t-1}$	0.0328	0.0295	0.0472	0.0430
	(0.037)	(0.036)	(0.034)	(0.034)
NPLs$_{t-1}$	-0.0873	-0.0866	-0.1026	-0.0968
	(0.069)	(0.068)	(0.076)	(0.074)
TSCR$_{t-1}$	-0.0550	-0.0834	0.0778	0.0708
	(0.174)	(0.164)	(0.173)	(0.165)
PROV/TA$_{t-1}$	0.6782*	0.7090**	0.2543	0.1606
	(0.353)	(0.348)	(0.343)	(0.341)
lnTA$_{t-1}$ × MP Tightening			0.0024**	0.0022**
			(0.001)	(0.001)
CET1$_{t-1}$ × MP Tightening			0.0250	0.0415
			(0.025)	(0.025)
ROA$_{t-1}$ × MP Tightening			-0.6191**	-0.6553**
			(0.262)	(0.262)
CASH/TA$_{t-1}$ × MP Tightening			-0.0500**	-0.0524**
			(0.025)	(0.025)
DEP/TA$_{t-1}$ × MP Tightening			0.0016	0.0024
			(0.012)	(0.014)
NPLs$_{t-1}$ × MP Tightening			0.1057**	0.0857
			(0.054)	(0.054)
TSCR$_{t-1}$ × MP Tightening			-0.1937**	-0.2172**
			(0.097)	(0.103)
PROV/TA$_{t-1}$ × MP Tightening			1.0613*	1.2294**
			(0.569)	(0.586)
Maturity (log)	0.0162***	0.0162***	0.0162***	0.0162***
	(0.002)	(0.002)	(0.002)	(0.002)
Impairment_r	0.0080	0.0080	0.0078	0.0078
	(0.011)	(0.011)	(0.011)	(0.011)
Observations	3,441,951	3,441,633	3,441,951	3,441,633
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Table 15: Liquid collaterals - CCyB

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Liquid collateral dummy			
	(1)	(2)	(3)	(4)
Cum. ΔCBR × MP Tightening	8.2773*	7.0349**	6.7876**	6.3837**
	(4.436)	(3.459)	(3.207)	(3.231)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-3.0311		-5.0001*
		(2.460)		(2.836)
$lnTA_{t-1}$	-0.0545	-0.0533	-0.0470	-0.0447
	(0.067)	(0.069)	(0.072)	(0.072)
$CET1_{t-1}$	-0.1325**	-0.0904**	-0.1406**	-0.1378**
	(0.058)	(0.041)	(0.069)	(0.064)
ROA_{t-1}	-1.9758	-1.7855	-0.8129	-0.7199
	(1.520)	(1.450)	(0.744)	(0.730)
$CASH/TA_{t-1}$	-0.2865**	-0.2618**	-0.2691***	-0.2551***
	(0.127)	(0.111)	(0.097)	(0.092)
DEP/TA_{t-1}	0.3422*	0.3069	0.3836*	0.3525*
	(0.192)	(0.195)	(0.218)	(0.212)
$NPLs_{t-1}$	0.2724*	0.2432*	0.2287	0.2148
	(0.160)	(0.145)	(0.146)	(0.145)
$TSCR_{t-1}$	-0.0517	1.2203*	1.1463*	
	(0.295)	(0.262)	(0.720)	(0.685)
$PROV/TA_{t-1}$	0.7334	0.9251	2.4214**	2.4090**
	(0.541)	(0.563)	(1.106)	(1.061)
$lnTA_{t-1}$ × MP Tightening			-0.0007	-0.0018
			(0.002)	(0.002)
$CET1_{t-1}$ × MP Tightening			0.1171	0.1296
			(0.095)	(0.092)
ROA_{t-1} × MP Tightening			-2.3957	-2.3324
			(2.255)	(2.218)
$CASH/TA_{t-1}$ × MP Tightening			0.0238	0.0177
			(0.040)	(0.036)
DEP/TA_{t-1} × MP Tightening			0.0663	0.0339
			(0.059)	(0.050)
$NPLs_{t-1}$ × MP Tightening			0.2218**	0.1709*
			(0.111)	(0.091)
$TSCR_{t-1}$ × MP Tightening			-1.2102**	-1.1998**
			(0.566)	(0.552)
$PROV/TA_{t-1}$ × MP Tightening			-3.5570**	-3.2541**
			(1.482)	(1.352)
Maturity (log)	-0.0051	-0.0051	-0.0051	-0.0051
	(0.004)	(0.004)	(0.004)	(0.004)
Impairment_r	-0.0025	-0.0027	-0.0031	-0.0033
	(0.002)	(0.002)	(0.002)	(0.002)
Observations	3,441,951	3,441,633	3,441,951	3,441,633
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Table 16: Intensive margin - multiple & single bank-relationships

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Δ ln (loans)					
	(1)	(2)	(3)	(4)	(5)	(6)
Cum. ΔCBR × MP Tightening	-0.3401	0.0229	0.0538	0.0562	0.3513	0.5949
	(0.499)	(0.434)	(0.441)	(0.416)	(0.414)	(0.415)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-1.4986**	-1.8071**		-1.3081**	-1.5938**
		(0.660)	(0.780)		(0.590)	(0.681)
lnTA$_{t-1}$	0.0106	0.0111	0.0199*	0.0049	0.0063	0.0104
	(0.009)	(0.009)	(0.012)	(0.008)	(0.008)	(0.011)
CET1$_{t-1}$	-0.0617	-0.0591	-0.0972**	-0.0884***	-0.0696**	-0.1017***
	(0.038)	(0.040)	(0.046)	(0.031)	(0.032)	(0.035)
ROA$_{t-1}$	0.6228**	0.5685*	0.3586	0.5030	0.4587	0.3623
	(0.304)	(0.303)	(0.234)	(0.312)	(0.303)	(0.259)
CASH/TA$_{t-1}$	-0.0279	-0.0281	-0.0188	-0.0315	-0.0342	-0.0211
	(0.031)	(0.031)	(0.027)	(0.032)	(0.033)	(0.031)
DEP/TA$_{t-1}$	0.0849	0.0596	0.0629	0.0649	0.0511	0.0446
	(0.065)	(0.055)	(0.061)	(0.060)	(0.057)	(0.061)
NPLs$_{t-1}$	0.0689	0.0525	0.0662	0.0257	0.0125	0.0319
	(0.054)	(0.048)	(0.049)	(0.077)	(0.072)	(0.077)
TSCR$_{t-1}$	0.1554	0.1575	0.0358	-0.0682	-0.0581	-0.1883
	(0.159)	(0.171)	(0.164)	(0.177)	(0.192)	(0.193)
PROV/TA$_{t-1}$	0.3221	0.2999	0.4689	-0.3539	-0.3178	-0.2153
	(0.451)	(0.452)	(0.384)	(0.658)	(0.651)	(0.670)
lnTA$_{t-1}$ × MP Tightening				-0.0006	-0.0011	-0.0016
				(0.001)	(0.001)	(0.001)
CET1$_{t-1}$ × MP Tightening				0.0126	-0.0117	-0.0354
				(0.019)	(0.018)	(0.027)
ROA$_{t-1}$ × MP Tightening				0.1896	0.1933	-0.0097
				(0.226)	(0.216)	(0.233)
CASH/TA$_{t-1}$ × MP Tightening				0.0083	0.0115	0.0146
				(0.014)	(0.014)	(0.018)
DEP/TA$_{t-1}$ × MP Tightening				-0.0074	-0.0104	0.0059
				(0.014)	(0.014)	(0.019)
NPLs$_{t-1}$ × MP Tightening				0.0539	0.0598	0.0913
				(0.062)	(0.060)	(0.071)
TSCR$_{t-1}$ × MP Tightening				0.3681***	0.3440***	0.4188***
				(0.090)	(0.080)	(0.102)
PROV/TA$_{t-1}$ × MP Tightening				1.0759	1.0246	1.0066
				(0.923)	(0.869)	(0.922)
Maturity (log)	0.0069***	0.0069***	-0.0372***	0.0069***	0.0069***	-0.0374***
	(0.002)	(0.002)	(0.011)	(0.002)	(0.002)	(0.011)
Collateral/loan	-0.0131***	-0.0131***	-0.0295***	-0.0131***	-0.0131***	-0.0296***
	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)
Observations	30,726,784	30,724,038	30,471,729	30,726,784	30,724,038	30,471,729
Bank FE	Yes	Yes	No	Yes	Yes	No
ILS × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Firm FE	No	No	Yes	No	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank

Table 17: Extensive margin - new firms with and without pre-existing credit relationships

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: D(new rel)					
	(1)	(2)	(3)	(4)	(5)	(6)
Cum. ΔCBR × MP Tightening	-0.9345	-0.1360	0.5377	-0.1184	0.4494	0.9225
	(0.633)	(0.687)	(0.830)	(0.627)	(0.778)	(1.046)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-3.7858**	-2.7628*		-3.0965**	-1.9437
		(1.505)	(1.561)		(1.364)	(1.351)
lnTA$_{t-1}$	-0.0263	-0.0288	-0.1076***	-0.0424	-0.0466*	-0.1302***
	(0.031)	(0.029)	(0.033)	(0.030)	(0.027)	(0.031)
CET1$_{t-1}$	-0.0031	-0.0275	-0.0179	-0.0298	-0.0807	-0.1204
	(0.078)	(0.070)	(0.071)	(0.070)	(0.080)	(0.085)
ROA$_{t-1}$	2.0737***	2.1231***	2.8928***	2.5545***	2.5824***	4.2265***
	(0.560)	(0.589)	(0.641)	(0.710)	(0.715)	(0.791)
CASH/TA$_{t-1}$	0.0673	0.0631	0.0903*	0.0905	0.0858	0.1315**
	(0.054)	(0.051)	(0.053)	(0.058)	(0.057)	(0.057)
DEP/TA$_{t-1}$	0.0480	0.0733	0.0225	0.0147	0.0372	-0.0171
	(0.095)	(0.076)	(0.090)	(0.084)	(0.074)	(0.086)
NPLs$_{t-1}$	0.0204	0.0321	-0.2057*	0.0715	0.0875	-0.0424
	(0.088)	(0.078)	(0.117)	(0.104)	(0.098)	(0.127)
TSCR$_{t-1}$	-0.1966	-0.1084	-0.3489*	-0.4962**	-0.3561	-0.4467**
	(0.221)	(0.228)	(0.198)	(0.226)	(0.231)	(0.199)
PROV/TA$_{t-1}$	0.7704	1.1602	0.4417	1.0527	0.8003	-0.0443
	(1.359)	(1.370)	(1.230)	(2.242)	(2.232)	(2.121)
lnTA$_{t-1}$ × MP Tightening				-0.0002	-0.0009	0.0010
				(0.001)	(0.001)	(0.002)
CET1$_{t-1}$ × MP Tightening				-0.0231	0.0235	0.1066**
				(0.027)	(0.046)	(0.050)
ROA$_{t-1}$ × MP Tightening				-1.0587**	-1.003**	-2.8256***
				(0.533)	(0.505)	(0.536)
CASH/TA$_{t-1}$ × MP Tightening				-0.0243	-0.0107	-0.0005
				(0.033)	(0.033)	(0.039)
DEP/TA$_{t-1}$ × MP Tightening				0.0180	0.0223	0.0509*
				(0.025)	(0.024)	(0.027)
NPLs$_{t-1}$ × MP Tightening				-0.0337	-0.0458	-0.2330***
				(0.085)	(0.088)	(0.081)
TSCR$_{t-1}$ × MP Tightening				0.7095***	0.5726***	0.4657***
				(0.162)	(0.143)	(0.162)
PROV/TA$_{t-1}$ × MP Tightening				-0.5226	0.5114	1.2113
				(1.978)	(1.944)	(2.003)
Maturity (log)	-0.0236***	-0.0236***	-0.0174***	-0.0237***	-0.0236***	-0.0178***
	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)
Collateral/loan	-0.0016***	-0.0016***	0.0013**	-0.0016***	-0.0016***	0.0013**
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
Observations	31,940,679	31,937,322	31,672,285	31,940,679	31,937,322	31,672,285
Bank FE	Yes	Yes	No	Yes	Yes	No
ILS × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Firm FE	No	No	Yes	No	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank

Appendix

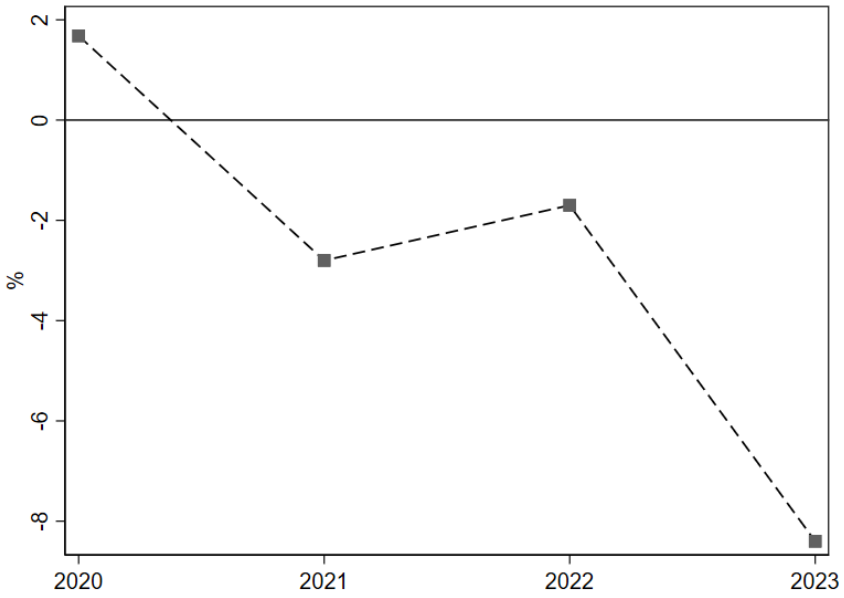


Figure A1: Growth of value of CRE collateral over 2020-2023

Notes: This figure shows the average growth rate in the value of commercial real estate collateral over the period 2020-2023.

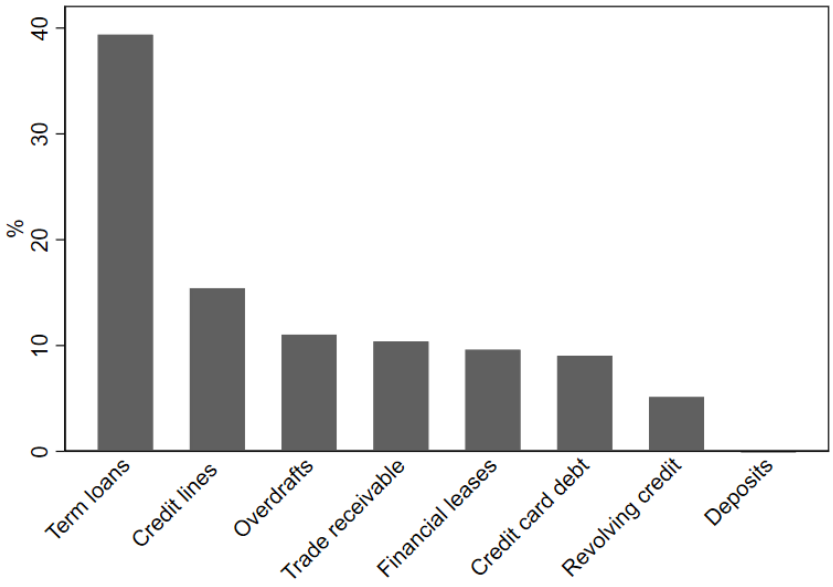


Figure A2: Lending Instrument type distribution

Notes: This figure shows the percentage of instrument by type.

Table A1: Relevant policy changes during the sample period (announced before MP tightening)

↑ and ↓ represent an increase or a decrease in the buffer rate respectively. The rate in percent refers to the fully loaded buffer rate. The number of banks and the sector (in parenthesis) affected are noted when relevant.

Country	Announcement	Implementation	Policy		
			CCyB	(s)SyRB	O-SII/G-SIB
Austria	1 Jun 2021	1 Jun 2021			↓ for 9 banks to 0.5-1%
	1 Jun 2021	1 Jun 2021		↓ for 8 banks to 0.5-1%	
Belgium	29 Apr 2022	1 May 2022		↑ for 9 banks to 9% (RRE)	
Cyprus	29 Nov 2021	1 Jan 2023			↓ for 5 banks to 0.25-1.5%
Germany	1 Feb 2022	1 Feb 2023	↑ to 0.75%		
	1 Dec 2021	1 Jan 2022			↑ for 1 bank to 0.75%
	25 Mar 2022	1 Feb 2023		↑ to 2% (RRE)	
Estonia	30 Nov 2021	7 Dec 2022	↑ to 1%		
	26 Nov 2021	1 Jan 2022			↑ for 1 bank to 1.5%
Spain	30 Jul 2021	21 Jul 2021			↓ for 1 bank to 0%
	30 Jul 2021	1 Jan 2023			↑ for 1 bank to 0.5%
Finland	28 Jun 2022	1 Jan 2023			↑ for 2 banks to 1.5-2.5%
France	7 Apr 2022	7 Apr 2023	↑ to 0.5%		
	1 Dec 2021	1 Jan 2023			↑ for 1 bank to 2%
Greece	15 Dec 2021	1 Jan 2022			↓ for 3 banks to 0.75%
Ireland	15 Jun 2022	1 Jun 2023	↑ to 0.5%		
Lithuania	26 Nov 2021	1 Jul 2022		↑ for 5 banks to 2% (RRE)	
Luxembourg	23 Dec 2021	1 Jan 2022			↑ for 1 bank to 1%
	22 Jan 2022	22 Jan 2022			↓ for 1 bank to 0%
Latvia	22 Dec 2021	1 Jan 2023			↑ for 1 bank to 1.75%
Malta	12 Jan 2021	1 Jan 2025			↑ for 1 bank to 1%
The Netherlands	25 May 2022	25 May 2023	↑ to 1%		
Slovenia	1 Dec 2021	1 Jan 2023			↑ for 1 bank to 1.25%
	6 May 2022	1 Jan 2023		↑ to 1% (RRE) ↑ to 0.5% (unsecured)	
Slovakia	20 Jun 2022	1 Aug 2023	↑ to 1.5%		
	5 Jun 2021	1 Jan 2022			↑ for 3 banks to 1.5-2%
	7 Jun 2022	1 Jan 2023			↑ for 1 bank to 1.25%
	5 Jun 2021	1 Jan 2022		↓ for 3 banks to 0%	

Table A2: Results without time fixed effects

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Δ *ln (loans)*		*D(new rel)*	
	MP	*MAP*	*MP*	*MAP*
	(1)	(2)	(3)	(4)
MP Tightening	-0.0165***		-0.0267***	
	(0.002)		(0.004)	
D(D2CBR<Tercile)	0.0048*	0.0024	-0.0023	-0.0033
	(0.003)	(0.004)	(0.012)	(0.011)
MP Tightening × D(D2CBR<Tercile)	-0.0062*		-0.0013	
	(0.004)		(0.008)	
Cum. ΔCBR × D(D2CBR<Tercile)		-0.8077*		-0.4085
		(0.470)		(0.986)
lnTA$_{t-1}$	-0.0249***	-0.0798***	-0.1593***	-0.2371***
	(0.009)	(0.010)	(0.031)	(0.027)
CET1$_{t-1}$	-0.0304	0.0053	-0.0808	-0.0270
	(0.051)	(0.069)	(0.091)	(0.121)
ROA$_{t-1}$	-0.0033	-0.0074*	0.0049	-0.0011
	(0.003)	(0.004)	(0.007)	(0.009)
CASH/TA$_{t-1}$	0.0514*	0.1451***	0.2139***	0.3573***
	(0.029)	(0.033)	(0.059)	(0.063)
DEP/TA$_{t-1}$	0.1237**	0.2462***	0.2064**	0.3644***
	(0.060)	(0.090)	(0.101)	(0.132)
NPLs$_{t-1}$	0.0019**	0.0049***	0.0018	0.0061**
	(0.001)	(0.001)	(0.002)	(0.003)
TSCR$_{t-1}$	0.0202	-0.2974	-0.2243	-0.6985
	(0.203)	(0.301)	(0.372)	(0.540)
PROV/TA$_{t-1}$	-0.4435	-0.4486	1.8536	1.7289
	(0.331)	(0.458)	(1.462)	(1.596)
Maturity (log)	-0.0068*	-0.0068*	-0.0232***	-0.0234***
	(0.004)	(0.004)	(0.001)	(0.001)
Collateral/loan	-0.0188***	-0.0194***	-0.0017***	-0.0024***
	(0.001)	(0.001)	(0.000)	(0.000)
Observations	40,739,904	40,540,785	42,519,180	42,303,993
Bank FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes

Table A3: Correlation matrix of covariates

The table shows the linear correlation coefficients of the bank-level covariates used in the regressions. The linear correlation coefficients have been computed on a bank-quarter dataset.

	Cum. ΔCBR	lnTA	CET1r	ROA	CASH/TA	DEP/TA	NPLs	TSCR	PROV/TA
Cum. ΔCBR		0.356	-0.348	-0.282	0.122	0.115	-0.319	-0.191	0.252
lnTA	0.356		-0.285	-0.059	0.338	-0.316	-0.103	-0.353	-0.058
CET1	-0.348	-0.2856		0.133	-0.047	-0.283	0.061	0.233	-0.004
ROA	-0.282	-0.059	0.131		-0.101	-0.114	-0.038	0.077	0.001
CASH/TA	0.122	0.338	-0.047	-0.101		-0.143	0.130	-0.030	-0.021
DEP/TA	0.115	-0.316	-0.283	-0.114	-0.143		-0.076	0.042	0.066
NPLs	-0.319	-0.103	0.061	-0.038	0.130	-0.076		0.029	-0.255
TSCR	-0.191	-0.353	0.233	0.077	-0.030	0.042	0.029		0.073
PROV/TA	0.252	-0.058	-0.004	0.001	-0.021	0.066	-0.255	0.073	

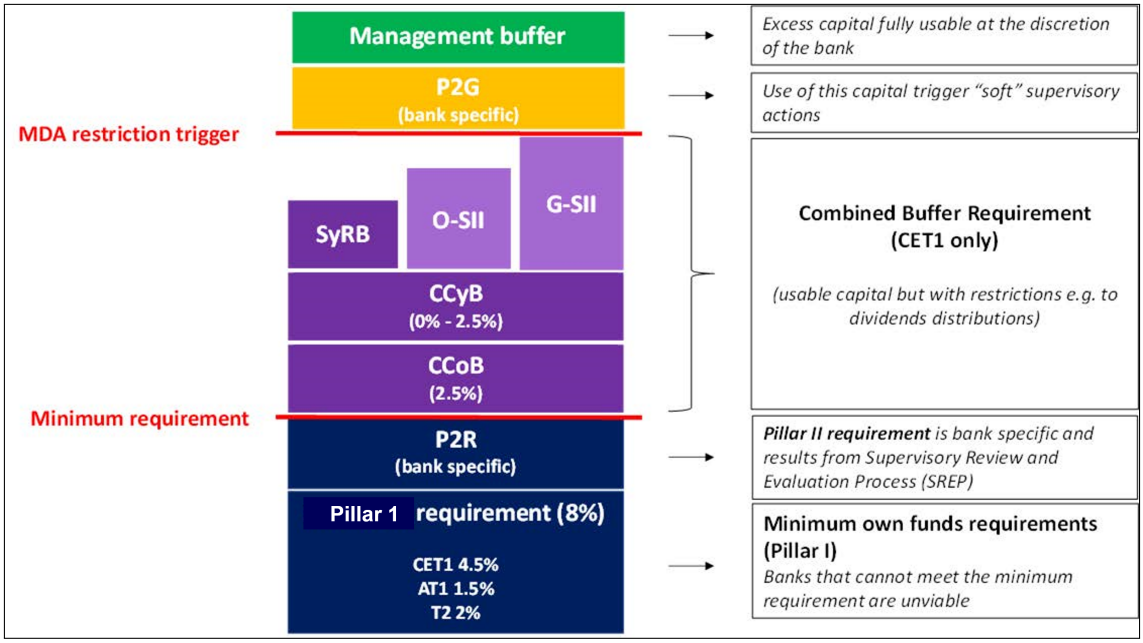
A Euro area banks' capital stack

Figure A3 shows the order of capital requirements for euro area banks. As displayed, banks must fulfill *minimum requirements*, that are composed of a constant Pillar 1 element (*minimum own funds requirements* of 8% of risk weighted assets), with at least 4.5% to be met with CET1, and a bank-specific Pillar 2 requirement that is determined as part of the Supervisory Review and Evaluation Process (SREP), with a minimum of 56.25% to be met by CET1. The sum of the two requirements is the Total SREP Capital Requirement (TSCR).

The Combined Buffer Requirement (CBR) sits on top of these minimum capital requirements. In the European framework, the CBR consists of the capital conservation buffer (CCoB), the countercyclical buffer (CCyB), the (sectoral) systemic risk buffer (SyRB) and buffers for systemically important banks, which are Other Systemically Important Intermediaries (O-SIIs) and Globally Systemically Important Banks (G-SIBs). The sum of TSCR and the CBR forms the Overall Capital Requirement (OCR). Above the CBR, banks are also supposed to fulfill the Pillar 2 Guidance (P2G). This is not strictly speaking a requirement as it is not legally binding.

The distance to the CBR, defined as the difference between a bank's actual capital ratio and its OCR, assumes particular relevance in shaping bank lending behaviour as dipping into the CBR triggers automatic restrictions on dividend distributions, bonuses and coupon payments according to the Maximum Distributable Amount (MDA) mechanism and forces banks to communicate a capital recovery plan to its supervisors. It follows that, *ceteris paribus*, an increase in capital buffer requirements reduces the distance to the CBR, incentivizing those banks closer to CBR to deleverage in order to avoid falling below the OCR and dipping into the CBR.

Figure A3: Stacking Order of Capital Requirements



Source: ECB and Authors' Elaboration
Note: CET1: Common Equity Tier 1. AT1: additional Tier 1. T2: Tier 2. P2R: Pillar 2 requirement. CCoB: capital conservation buffer. CCyB: countercyclical capital buffer. G-SII and O-SII indicate, respectively, the structural buffers required for global systemically important institutions and for other systemically important institutions. SyRB: systemic risk buffer. P2G: Pillar 2 guidance

Online Appendix

Replacing the monetary policy tightening dummy

Tables B1 to B7 report the estimates where we replace the dummy variable (*MP Tightening*) with the cumulative change in the deposit facility rate (ΔDFR). The results remain broadly in line with the baseline results. Again, on average, changes in the CBR did not result in a statistically significant effect on either banks' overall lending or on the probability to establish a new bank-firm relationship to non-financial corporations following the increase in the DFR. As in the baseline, the relationship becomes significant when we consider differential effects for banks closer to the CBR, where a 1 pp translates into a 0.39-0.48 pp lower lending or a 0.58-1.1 pp reduction in the probability to establish a new lending relationship.

The risk-taking regressions are also broadly in line with the monetary policy tightening dummy specification, with LTV showing a negative sign that is amplified for banks below the first tercile of the distance to the CBR and the CRE collateral (Liquid collateral) regressions showing a negative (positive) sign that are statistically insignificant for the additional relative effect of less capitalized banks. The firm-level results are also aligned with the findings reported in the paper.

Table B1: Robustness: Intensive margin - ΔDFR

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Δ ln (loans)					
	(1)	(2)	(3)	(4)	(5)	(6)
Cum. ΔCBR × ΔDFR	-0.1721	0.0295	-0.1069	-0.0758	0.1037	0.0578
	(0.293)	(0.296)	(0.304)	(0.250)	(0.269)	(0.291)
Cum. ΔCBR × ΔDFR × D(D2CBR<Tercile)		-0.4788***	-0.3882**		-0.4489***	-0.3735**
		(0.184)	(0.191)		(0.161)	(0.172)
lnTA$_{t-1}$	0.0082	0.0092	0.0177*	0.0047	0.0060	0.0087
	(0.009)	(0.008)	(0.011)	(0.008)	(0.008)	(0.009)
CET1$_{t-1}$	-0.0287	-0.0192	-0.0548	-0.0647*	-0.0382	-0.0857**
	(0.043)	(0.046)	(0.055)	(0.038)	(0.041)	(0.043)
ROA$_{t-1}$	0.9082***	0.8201***	0.6283**	0.8658***	0.8021***	0.7330***
	(0.315)	(0.294)	(0.254)	(0.323)	(0.295)	(0.277)
CASH/TA$_{t-1}$	-0.0004	0.0015	0.0114	-0.0017	-0.0036	0.0126
	(0.038)	(0.038)	(0.037)	(0.040)	(0.040)	(0.041)
DEP/TA$_{t-1}$	0.0543	0.0301	0.0194	0.0367	0.0259	0.0037
	(0.056)	(0.052)	(0.055)	(0.057)	(0.057)	(0.061)
NPLs$_{t-1}$	0.0353	0.0199	0.0230	0.0292	0.0192	0.0303
	(0.064)	(0.061)	(0.069)	(0.078)	(0.074)	(0.088)
TSCR$_{t-1}$	0.2032	0.1748	-0.0359	0.0109	-0.0120	-0.2053
	(0.180)	(0.188)	(0.192)	(0.201)	(0.210)	(0.220)
PROV/TA$_{t-1}$	0.3518	0.3206	0.6087	-0.2561	-0.1810	-0.0191
	(0.536)	(0.524)	(0.493)	(0.833)	(0.848)	(0.910)
lnTA$_{t-1}$ × ΔDFR				-0.0001	-0.0002	-0.0002
				(0.000)	(0.000)	(0.000)
CET1$_{t-1}$ × ΔDFR				0.0129*	0.0040	0.0001
				(0.007)	(0.006)	(0.008)
ROA$_{t-1}$ × ΔDFR				-0.0043	-0.0024	-0.0723
				(0.080)	(0.076)	(0.087)
CASH/TA$_{t-1}$ × ΔDFR				0.0018	0.0029	0.0051
				(0.005)	(0.005)	(0.006)
DEP/TA$_{t-1}$ × ΔDFR				-0.0041	-0.0051	0.0027
				(0.004)	(0.004)	(0.005)
NPLs$_{t-1}$ × ΔDFR				-0.0065	-0.0055	0.0051
				(0.019)	(0.019)	(0.022)
TSCR$_{t-1}$ × ΔDFR				0.0805***	0.0794***	0.0925***
				(0.026)	(0.025)	(0.028)
PROV/TA$_{t-1}$ × ΔDFR				0.3989	0.3684	0.3578
				(0.326)	(0.324)	(0.335)
Maturity (log)	-0.0016	-0.0016	-0.0556***	-0.0016	-0.0016	-0.0559***
	(0.002)	(0.002)	(0.011)	(0.002)	(0.002)	(0.011)
Collateral/loan	-0.0146***	-0.0146***	-0.0384***	-0.0146***	-0.0146***	-0.0384***
	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)	(0.003)
Observations	12,843,760	12,841,651	12,673,110	12,843,760	12,841,651	12,673,110
Bank FE	Yes	Yes	No	Yes	Yes	No
Firm × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Firm FE	No	No	Yes	No	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank

Table B2: Robustness: Extensive margin - ΔDFR

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: D(new rel)					
	(1)	(2)	(3)	(4)	(5)	(6)
Cum. ΔCBR × ΔDFR	-0.4011**	-0.0251	0.5125*	-0.1343	0.1690	0.5489*
	(0.184)	(0.193)	(0.286)	(0.170)	(0.208)	(0.287)
Cum. ΔCBR × ΔDFR × D(D2CBR<Tercile)		-1.0792***	-0.7819**		-0.9817***	-0.5787*
		(0.342)	(0.377)		(0.313)	(0.333)
$lnTA_{t-1}$	-0.0015	-0.0038	-0.0814***	-0.0092	-0.0132	-0.0894***
	(0.028)	(0.026)	(0.028)	(0.027)	(0.025)	(0.026)
$CET1_{t-1}$	0.0373	0.0284	0.0730	-0.0041	-0.0301	-0.0669
	(0.067)	(0.060)	(0.064)	(0.060)	(0.066)	(0.074)
ROA_{t-1}	2.0551***	2.1068***	2.8592***	2.4405***	2.4564***	3.9468***
	(0.576)	(0.584)	(0.651)	(0.662)	(0.664)	(0.758)
$CASH/TA_{t-1}$	0.1000*	0.0953*	0.1145*	0.1045*	0.0984*	0.1327**
	(0.057)	(0.054)	(0.059)	(0.060)	(0.058)	(0.062)
DEP/TA_{t-1}	-0.0122	-0.0037	-0.0609	-0.0228	-0.0208	-0.0554
	(0.079)	(0.068)	(0.081)	(0.076)	(0.070)	(0.083)
$NPLs_{t-1}$	-0.0219	-0.0140	-0.1959*	0.0137	0.0187	-0.0626
	(0.073)	(0.067)	(0.110)	(0.085)	(0.084)	(0.107)
$TSCR_{t-1}$	-0.0844	-0.0544	-0.3747**	-0.2594	-0.1812	-0.2309
	(0.200)	(0.214)	(0.173)	(0.191)	(0.188)	(0.171)
$PROV/TA_{t-1}$	0.0783	0.3957	-0.2977	0.7336	0.5619	-0.1188
	(1.312)	(1.305)	(1.246)	(1.941)	(1.991)	(1.961)
$lnTA_{t-1}$ × ΔDFR				0.0000	-0.0002	0.0007
				(0.000)	(0.000)	(0.000)
$CET1_{t-1}$ × ΔDFR				-0.0009	0.0083	0.0514***
				(0.007)	(0.011)	(0.015)
ROA_{t-1} × ΔDFR				-0.2695**	-0.2539**	-0.7810***
				(0.115)	(0.107)	(0.158)
$CASH/TA_{t-1}$ × ΔDFR				0.0015	0.0050	0.0150
				(0.008)	(0.008)	(0.010)
DEP/TA_{t-1} × ΔDFR				0.0058	0.0065	0.0158*
				(0.006)	(0.005)	(0.009)
$NPLs_{t-1}$ × ΔDFR				0.0016	0.0002	-0.0520**
				(0.017)	(0.018)	(0.025)
$TSCR_{t-1}$ × ΔDFR				0.1209***	0.0914***	0.0026
				(0.036)	(0.030)	(0.046)
$PROV/TA_{t-1}$ × ΔDFR				-0.3664	-0.1339	-0.0768
				(0.431)	(0.460)	(0.544)
Maturity (log)	-0.0186***	-0.0186***	-0.0107***	-0.0187***	-0.0186***	-0.0111***
	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)	(0.002)
Collateral/loan	-0.0012***	-0.0012***	0.0017***	-0.0012***	-0.0012***	0.0017***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
Observations	13,649,739	13,647,148	13,465,239	13,649,739	13,647,148	13,465,239
Bank FE	Yes	Yes	No	Yes	Yes	No
Firm × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Firm FE	No	No	Yes	No	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank

Table B3: Robustness: New lending - Monetary Policy Pass-through

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Interest rate			
	(1)	(2)	(3)	(4)
Cum. ΔCBR × ΔDFR	0.1456**	0.1842**	0.0615	0.0836
	(0.074)	(0.072)	(0.070)	(0.061)
Cum. ΔCBR × ΔDFR × D(D2CBR<Tercile)		-0.6744*		-0.5189*
		(0.367)		(0.315)
lnTA$_{t-1}$	-0.0041	-0.0032	-0.0017	-0.0007
	(0.004)	(0.003)	(0.003)	(0.003)
CET1$_{t-1}$	-0.0127	-0.0106	-0.0339***	-0.0260***
	(0.012)	(0.010)	(0.013)	(0.010)
ROA$_{t-1}$	-0.1263	-0.2021**	-0.0172	-0.0787
	(0.083)	(0.086)	(0.110)	(0.114)
CASH/TA$_{t-1}$	-0.0147*	-0.0110	0.0045	0.0045
	(0.008)	(0.007)	(0.006)	(0.006)
DEP/TA$_{t-1}$	-0.0168	-0.0204	-0.0100	-0.0120
	(0.018)	(0.016)	(0.015)	(0.013)
NPLs$_{t-1}$	-0.0080	-0.0055	0.0156	0.0101
	(0.030)	(0.028)	(0.030)	(0.028)
TSCR$_{t-1}$	-0.0891***	-0.0899***	-0.4170***	-0.3764***
	(0.021)	(0.021)	(0.118)	(0.120)
PROV/TA$_{t-1}$	-0.0882***	-0.0865***	-0.2905**	-0.2187*
	(0.021)	(0.023)	(0.118)	(0.120)
lnTA$_{t-1}$ × ΔDFR			0.0004***	0.0003***
			(0.000)	(0.000)
CET1$_{t-1}$ × ΔDFR			0.0119***	0.0105***
			(0.003)	(0.002)
ROA$_{t-1}$ × ΔDFR			-0.0700*	-0.0631*
			(0.036)	(0.035)
CASH/TA$_{t-1}$ × ΔDFR			-0.0073***	-0.0069***
			(0.002)	(0.002)
DEP/TA$_{t-1}$ × ΔDFR			0.0025*	0.0023*
			(0.001)	(0.001)
NPLs$_{t-1}$ × ΔDFR			-0.0039	-0.0010
			(0.006)	(0.006)
TSCR$_{t-1}$ × ΔDFR			-0.0376**	-0.0174*
			(0.015)	(0.009)
PROV/TA$_{t-1}$ × ΔDFR			0.0990***	0.0870**
			(0.037)	(0.037)
Maturity (log)	-0.0014***	-0.0014***	-0.0014***	-0.0014***
	(0.000)	(0.000)	(0.000)	(0.000)
Impairment_r	0.0113***	0.0113***	0.0113***	0.0113***
	(0.003)	(0.003)	(0.003)	(0.003)
Observations	6,815,337	6,815,012	6,815,337	6,815,012
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Table B4: Robustness: LTV - ΔDFR

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: LTV			
	(1)	(2)	(3)	(4)
Cum. ΔCBR × ΔDFR	-1.1880*	-0.9445*	-1.0665*	-1.0500*
	(0.738)	(0.581)	(0.619)	(0.546)
Cum. ΔCBR × ΔDFR × D(D2CBR<Tercile)		-10.1421*		-11.5324*
		(6.410)		(6.436)
lnTA$_{t-1}$	0.1716***	0.1735***	0.1963***	0.2108***
	(0.059)	(0.057)	(0.064)	(0.064)
CET1$_{t-1}$	0.1847	0.2175	0.2016	0.3348*
	(0.167)	(0.154)	(0.195)	(0.195)
ROA$_{t-1}$	-2.4989	-3.0667*	-1.7750	-2.3985
	(1.590)	(1.637)	(1.740)	(1.750)
CASH/TA$_{t-1}$	-0.2479**	-0.2447**	-0.2711**	-0.2729**
	(0.110)	(0.106)	(0.128)	(0.128)
DEP/TA$_{t-1}$	0.1041	0.1149	0.1790	0.1927
	(0.362)	(0.357)	(0.382)	(0.390)
NPLs$_{t-1}$	0.4648	0.5424	0.3909	0.3930
	(0.387)	(0.359)	(0.360)	(0.345)
TSCR$_{t-1}$	-1.1393	-1.5183	-0.7023	-0.6007
	(1.754)	(1.733)	(1.705)	(1.852)
PROV/TA$_{t-1}$	0.9530	1.0656	4.3533	5.1317
	(2.019)	(2.017)	(3.075)	(3.324)
lnTA$_{t-1}$ × ΔDFR			-0.0014	-0.0016
			(0.001)	(0.001)
CET1$_{t-1}$ × ΔDFR			-0.0080	-0.0262
			(0.036)	(0.047)
ROA$_{t-1}$ × ΔDFR			-0.5408	-0.6062
			(0.515)	(0.496)
CASH/TA$_{t-1}$ × ΔDFR			0.0165	0.0183
			(0.022)	(0.022)
DEP/TA$_{t-1}$ × ΔDFR			-0.0334	-0.0319
			(0.029)	(0.030)
NPLs$_{t-1}$ × ΔDFR			0.0599	0.1226***
			(0.053)	(0.047)
TSCR$_{t-1}$ × ΔDFR			-1.1977***	-1.4168***
			(0.368)	(0.385)
PROV/TA$_{t-1}$ × ΔDFR			-2.0256**	-2.3807**
			(0.883)	(0.982)
Maturity (log)	-0.0085	-0.0085	-0.0085	-0.0085
	(0.008)	(0.008)	(0.008)	(0.008)
Impairment_r	-0.0065	-0.0063	-0.0073	-0.0070
	(0.050)	(0.050)	(0.049)	(0.049)
Observations	3,123,451	3,123,133	3,123,451	3,123,133
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Collateral FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Table B5: Robustness: CRE collateral - ΔDFR

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: CRE dummy			
	(1)	(2)	(3)	(4)
Cum. ΔCBR × ΔDFR	-0.2999*	-0.3656**	-0.5232***	-0.5996***
	(0.162)	(0.170)	(0.181)	(0.174)
Cum. ΔCBR × ΔDFR × D(D2CBR<Tercile)		0.3025		0.2980
		(0.474)		(0.463)
lnTA$_{t-1}$	-0.0198**	-0.0203***	-0.0101	-0.0108
	(0.008)	(0.007)	(0.009)	(0.008)
CET1$_{t-1}$	-0.0337	-0.0193	-0.0070	-0.0116
	(0.030)	(0.029)	(0.034)	(0.032)
ROA$_{t-1}$	-0.4511**	-0.3553**	-0.2196	-0.1237
	(0.202)	(0.179)	(0.260)	(0.234)
CASH/TA$_{t-1}$	0.0167	0.0140	0.0365	0.0367
	(0.020)	(0.019)	(0.026)	(0.026)
DEP/TA$_{t-1}$	0.0456	0.0399	0.0620*	0.0565*
	(0.036)	(0.035)	(0.034)	(0.034)
NPLs$_{t-1}$	-0.0812	-0.0858	-0.1105	-0.1084
	(0.068)	(0.067)	(0.075)	(0.074)
TSCR$_{t-1}$	-0.0831	-0.0885	0.0287	0.0129
	(0.176)	(0.170)	(0.173)	(0.172)
PROV/TA$_{t-1}$	0.6803*	0.6512*	0.3067	0.1792
	(0.352)	(0.347)	(0.326)	(0.318)
lnTA$_{t-1}$ × ΔDFR			0.0008***	0.0008***
			(0.000)	(0.000)
CET1$_{t-1}$ × ΔDFR			0.0041	0.0103
			(0.006)	(0.007)
ROA$_{t-1}$ × ΔDFR			-0.0160**	-0.0176**
			(0.007)	(0.007)
CASH/TA$_{t-1}$ × ΔDFR			-0.0231	-0.0221
			(0.023)	(0.024)
DEP/TA$_{t-1}$ × ΔDFR			0.0007	0.0000
			(0.004)	(0.004)
NPLs$_{t-1}$ × ΔDFR			0.0365**	0.0302**
			(0.014)	(0.014)
TSCR$_{t-1}$ × ΔDFR			-0.0730**	-0.0732**
			(0.030)	(0.030)
PROV/TA$_{t-1}$ × ΔDFR			0.2572	0.2952*
			(0.166)	(0.164)
Maturity (log)	0.0162***	0.0162***	0.0162***	0.0162***
	(0.002)	(0.002)	(0.002)	(0.002)
Impairment_r	0.0080	0.0079	0.0077	0.0077
	(0.011)	(0.011)	(0.011)	(0.011)
Observations	3,441,951	3,441,633	3,441,951	3,441,633
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Table B6: Robustness: Liquid collaterals - ΔDFR

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Liquid collateral dummy			
	(1)	(2)	(3)	(4)
Cum. ΔCBR × ΔDFR	1.8503**	0.9536*	1.2779**	0.4900
	(0.942)	(0.500)	(0.589)	(0.349)
Cum. ΔCBR × ΔDFR × D(D2CBR<Tercile)		2.7892*		2.5700*
		(1.658)		(1.507)
lnTA$_{t-1}$	-0.0545	-0.0490	-0.0359	-0.0306
	(0.067)	(0.069)	(0.075)	(0.076)
CET1$_{t-1}$	-0.2097**	-0.1207***	-0.1736**	-0.1642**
	(0.089)	(0.046)	(0.078)	(0.071)
ROA$_{t-1}$	-1.7251	-1.3374	-0.1282	0.3170
	(1.393)	(1.161)	(0.707)	(0.730)
CASH/TA$_{t-1}$	-0.2797**	-0.2707**	-0.2620***	-0.2534**
	(0.125)	(0.120)	(0.098)	(0.099)
DEP/TA$_{t-1}$	0.3007	0.2953	0.3820	0.3796
	(0.194)	(0.199)	(0.239)	(0.239)
NPLs$_{t-1}$	0.2863	0.2654*	0.2574	0.2389
	(0.174)	(0.160)	(0.171)	(0.166)
TSCR$_{t-1}$	0.0808	0.1017	1.9322	1.8620
	(0.268)	(0.268)	(1.203)	(1.152)
PROV/TA$_{t-1}$	0.7043	0.5852	3.2154**	2.7575**
	(0.521)	(0.441)	(1.534)	(1.333)
lnTA$_{t-1}$ × ΔDFR			-0.0001	-0.0001
			(0.001)	(0.001)
CET1$_{t-1}$ × ΔDFR			0.0512	0.0707
			(0.038)	(0.044)
ROA$_{t-1}$ × ΔDFR			-0.9823	-1.0570
			(0.851)	(0.873)
CASH/TA$_{t-1}$ × ΔDFR			0.0146	0.0113
			(0.022)	(0.020)
DEP/TA$_{t-1}$ × ΔDFR			0.0258	0.0197
			(0.030)	(0.028)
NPLs$_{t-1}$ × ΔDFR			0.0438	0.0316
			(0.031)	(0.027)
TSCR$_{t-1}$ × ΔDFR			-0.4804*	-0.4590**
			(0.252)	(0.234)
PROV/TA$_{t-1}$ × ΔDFR			-1.6301**	-1.4828**
			(0.754)	(0.686)
Maturity (log)	-0.0052	-0.0053	-0.0051	-0.0052
	(0.004)	(0.004)	(0.004)	(0.004)
Impairment_r	-0.0020	-0.0021	-0.0029	-0.0030
	(0.002)	(0.002)	(0.002)	(0.002)
Observations	3,441,951	3,441,633	3,441,951	3,441,633
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Table B7: Robustness: Firm-level - ΔDFR

This table shows the results of the firm-level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Δ ln (borrowing)		
	(1)	(2)	(3)
High exposure	0.0081***	0.0057***	
	(0.001)	(0.002)	
High exposure × ΔDFR	-0.0032***	-0.0027***	-0.0016*
	(0.000)	(0.000)	(0.000)
wlnTA$_{t-1}$	-0.0023***	-0.0026***	-0.0097**
	(0.000)	(0.000)	(0.004)
wCET1$_{t-1}$	0.0125	-0.0025	-0.0930**
	(0.015)	(0.016)	(0.042)
wROA$_{t-1}$	0.5445**	0.5071**	0.8794***
	(0.217)	(0.247)	(0.336)
wCASH/TA$_{t-1}$	0.0092	0.0131	0.0372
	(0.013)	(0.017)	(0.025)
wDEP/TA$_{t-1}$	-0.0154	-0.0193	0.0164
	(0.013)	(0.019)	(0.069)
wNPLs$_{t-1}$	0.0260	-0.0504	-0.0469
	(0.048)	(0.056)	(0.102)
wTSCR$_{t-1}$	-0.1246*	0.0282	0.1604
	(0.064)	(0.076)	(0.275)
wPROVISIONS/TA$_{t-1}$	0.0462	-0.1010	0.4680
	(0.823)	(0.959)	(0.863)
wMaturity (log)		0.0036**	-0.0388***
		(0.001)	(0.007)
wCollateral/loan		-0.0111***	-0.0238***
		(0.000)	(0.001)
Observations	27,138,055	23,221,204	23,071,764
ILS × Time FE	Yes	Yes	Yes
Firm FE	No	No	Yes
Cluster S.E.	Largest lender	Largest lender	Largest lender

Alternative fixed effects

Tables B8 to B12 report the results with an alternative set of fixed effects. Specifically, we incorporate maturity bucket and interest rate type fixed effects. The maturity buckets are based on quartiles of the original loan maturity distribution while the interest rate type is based on a categorical variable identifying loans that have a fixed, floating or mixed interest rate fixation period. These fixed effects further control for the heterogeneity in credit demand across firms avoiding non-random matching between borrowers and lenders. For instance, if less capitalized banks facing capital buffer requirement increases are matched with floating rate borrowers the observed lending contraction may be driven by differences in interest rate fixation. The results, however, disregard this possible confounding factor as all the results are in line with the baseline.

Table B8: Robustness: Intensive margin - Maturity & Interest Rate Type Fixed Effects

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Δ ln (loans)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cum. ΔCBR × MP Tightening	-1.1616	-1.3719*	-0.5637	-0.8127	-0.5952	-0.7605	-0.1141	-0.3278
	(0.890)	(0.830)	(0.784)	(0.706)	(0.782)	(0.719)	(0.774)	(0.692)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)			-1.8112**	-1.7303**			-1.5165**	-1.3925**
			(0.725)	(0.710)			(0.597)	(0.587)
lnTA$_{t-1}$	0.0080	0.0076	0.0093	0.0088	0.0006	0.0008	0.0024	0.0027
	(0.009)	(0.008)	(0.009)	(0.008)	(0.008)	(0.007)	(0.007)	(0.007)
CET1$_{t-1}$	-0.0313	-0.0416	-0.0192	-0.0293	-0.0690*	-0.0718**	-0.0409	-0.0431
	(0.045)	(0.042)	(0.047)	(0.045)	(0.038)	(0.036)	(0.038)	(0.037)
ROA$_{t-1}$	0.8859***	0.9347***	0.8056***	0.8580***	0.7317**	0.7964**	0.6747**	0.7398**
	(0.320)	(0.322)	(0.307)	(0.298)	(0.349)	(0.386)	(0.323)	(0.344)
CASH/TA$_{t-1}$	-0.0008	0.0004	-0.0013	0.0002	0.0019	0.0033	-0.0017	-0.0001
	(0.039)	(0.037)	(0.040)	(0.037)	(0.043)	(0.040)	(0.043)	(0.040)
DEP/TA$_{t-1}$	0.0584	0.0474	0.0313	0.0225	0.0316	0.0255	0.0194	0.0133
	(0.056)	(0.053)	(0.050)	(0.047)	(0.052)	(0.049)	(0.051)	(0.049)
NPLs$_{t-1}$	0.0352	0.0344	0.0174	0.0186	0.0159	0.0168	0.0038	0.0047
	(0.062)	(0.060)	(0.058)	(0.056)	(0.087)	(0.087)	(0.082)	(0.082)
TSCR$_{t-1}$	0.1781	0.1398	0.1649	0.1238	-0.1057	-0.1599	-0.1220	-0.1786
	(0.183)	(0.170)	(0.194)	(0.181)	(0.208)	(0.191)	(0.217)	(0.200)
PROV/TA$_{t-1}$	0.4132	0.2316	0.4091	0.2354	-0.2622	-0.2219	-0.1759	-0.1283
	(0.543)	(0.513)	(0.544)	(0.514)	(0.932)	(0.881)	(0.952)	(0.908)
lnTA$_{t-1}$ × MP Tightening					-0.0006	-0.0008	-0.0012	-0.0013
					(0.001)	(0.001)	(0.001)	(0.001)
CET1$_{t-1}$ × MP Tightening					0.0359	0.0220	0.0072	-0.0069
					(0.024)	(0.023)	(0.025)	(0.026)
ROA$_{t-1}$ × MP Tightening					0.2097	0.1628	0.2061	0.1574
					(0.306)	(0.343)	(0.287)	(0.321)
CASH/TA$_{t-1}$ × MP Tightening					0.0027	-0.0023	0.0075	0.0023
					(0.019)	(0.018)	(0.018)	(0.017)
DEP/TA$_{t-1}$ × MP Tightening					-0.0072	-0.0119	-0.0115	-0.0163
					(0.014)	(0.014)	(0.015)	(0.016)
NPLs$_{t-1}$ × MP Tightening					0.0030	0.0040	0.0076	0.0087
					(0.071)	(0.067)	(0.069)	(0.065)
TSCR$_{t-1}$ × MP Tightening					0.4165***	0.4483***	0.4086***	0.4433***
					(0.101)	(0.101)	(0.093)	(0.093)
PROV/TA$_{t-1}$ × MP Tightening					1.1812	0.8390	1.0961	0.7268
					(1.157)	(1.110)	(1.139)	(1.115)
Maturity (log)	-0.0228***	-0.0032	-0.0228***	-0.0032	-0.0229***	-0.0032	-0.0229***	-0.0032
	(0.002)	(0.003)	(0.002)	(0.003)	(0.002)	(0.003)	(0.002)	(0.003)
Collateral/loan	-0.0155***	-0.0145***	-0.0155***	-0.0145***	-0.0155***	-0.0145***	-0.0155***	-0.0145***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Observations	12,843,760	12,843,760	12,841,651	12,841,651	12,843,760	12,843,760	12,841,651	12,841,651
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm × Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Maturity FE	Yes	No	Yes	No	Yes	No	Yes	No
IR type FE	No	Yes	No	Yes	No	Yes	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank	Bank	Bank

Table B9: Robustness: Extensive margin - Maturity & Interest Rate Type Fixed Effects

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: D(new rel)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cum. ΔCBR × MP Tightening	-1.7434**	-1.7200**	-0.3071	-0.2742	-0.7350	-0.7226	0.3708	0.3972
	(0.789)	(0.791)	(0.749)	(0.754)	(0.692)	(0.694)	(0.798)	(0.800)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)			-4.3827***	-4.4016***			-3.9113***	-3.9487***
			(1.379)	(1.380)			(1.273)	(1.273)
lnTA$_{t-1}$	-0.0019	-0.0016	-0.0038	-0.0035	-0.0139	-0.0136	-0.0177	-0.0175
	(0.028)	(0.028)	(0.027)	(0.027)	(0.028)	(0.027)	(0.025)	(0.025)
CET1$_{t-1}$	0.0358	0.0395	0.0263	0.0301	0.0014	0.0036	-0.0350	-0.0329
	(0.067)	(0.067)	(0.060)	(0.060)	(0.061)	(0.060)	(0.071)	(0.071)
ROA$_{t-1}$	2.0295***	2.0314***	2.0246***	2.0256***	2.3970***	2.4028***	2.3784***	2.3837***
	(0.576)	(0.578)	(0.574)	(0.577)	(0.719)	(0.722)	(0.705)	(0.707)
CASH/TA$_{t-1}$	0.1014*	0.1028*	0.0988*	0.1001*	0.1133*	0.1139*	0.1081*	0.1087*
	(0.057)	(0.057)	(0.055)	(0.055)	(0.063)	(0.063)	(0.062)	(0.062)
DEP/TA$_{t-1}$	-0.0228	-0.0210	-0.0088	-0.0071	0.0235	0.0262	0.0335	0.0363
	(0.072)	(0.072)	(0.064)	(0.063)	(0.091)	(0.091)	(0.089)	(0.088)
NPLs$_{t-1}$	0.0352	0.0344	0.0174	0.0186	0.0159	0.0168	0.0038	0.0047
	(0.062)	(0.060)	(0.058)	(0.056)	(0.087)	(0.087)	(0.082)	(0.082)
TSCR$_{t-1}$	-0.1062	-0.0903	-0.0852	-0.0700	-0.3218*	-0.3017	-0.2307	-0.2111
	(0.199)	(0.200)	(0.218)	(0.221)	(0.189)	(0.189)	(0.190)	(0.191)
PROV/TA$_{t-1}$	0.0986	0.1063	0.5671	0.5742	0.8303	0.8035	0.5952	0.5635
	(1.313)	(1.317)	(1.313)	(1.317)	(2.191)	(2.200)	(2.252)	(2.261)
lnTA$_{t-1}$ × MP Tightening					-0.0006	-0.0006	-0.0014	-0.0015
					(0.001)	(0.001)	(0.001)	(0.001)
CET1$_{t-1}$ × MP Tightening					-0.0134	-0.0112	0.0318	0.0344
					(0.029)	(0.029)	(0.046)	(0.046)
ROA$_{t-1}$ × MP Tightening					-0.8290	-0.8371	-0.7775	-0.7857
					(0.534)	(0.535)	(0.511)	(0.511)
CASH/TA$_{t-1}$ × MP Tightening					-0.0087	-0.0064	0.0079	0.0104
					(0.035)	(0.036)	(0.033)	(0.033)
DEP/TA$_{t-1}$ × MP Tightening					0.0200	0.0199	0.0237	0.0237
					(0.027)	(0.027)	(0.024)	(0.024)
NPLs$_{t-1}$ × MP Tightening					-0.0095	-0.0124	-0.0153	-0.0181
					(0.074)	(0.074)	(0.078)	(0.078)
TSCR$_{t-1}$ × MP Tightening					0.5157***	0.5095***	0.3649***	0.3578***
					(0.145)	(0.145)	(0.128)	(0.128)
PROV/TA$_{t-1}$ × MP Tightening					-1.4878	-1.4193	-0.3937	-0.3119
					(1.857)	(1.865)	(1.963)	(1.969)
Maturity (log)	-0.0263***	-0.0184***	-0.0263***	-0.0183***	-0.0263***	-0.0185***	-0.0263***	-0.0184***
	(0.003)	(0.001)	(0.003)	(0.001)	(0.003)	(0.001)	(0.003)	(0.001)
Collateral/loan	-0.0017***	-0.0015***	-0.0017***	-0.0015***	-0.0017***	-0.0015***	-0.0017***	-0.0015***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	13,649,739	13,649,739	13,647,148	13,647,148	13,649,739	13,649,739	13,647,148	13,647,148
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm × Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Maturity FE	Yes	No	Yes	No	Yes	No	Yes	No
IR type FE	No	Yes	No	Yes	No	Yes	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank	Bank	Bank

Table B10: Robustness: LTV - Maturity & Interest Rate Type Fixed Effects

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: LTV							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cum. ΔCBR × MP Tightening	-4.6139	-2.2581	-4.1248**	-1.7571	-5.2422*	-3.0333*	-4.5574***	-2.3236
	(2.831)	(1.858)	(1.771)	(1.566)	(2.702)	(1.773)	(1.757)	(1.625)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-12.9387*		-14.1960**		-12.0790*		-13.4387**
		(7.074)		(6.450)		(7.021)		(6.363)
lnTA$_{t-1}$	0.1749***	0.1738***	0.2138***	0.2180***	0.1763***	0.1749***	0.2140***	0.2175***
	(0.059)	(0.055)	(0.067)	(0.066)	(0.058)	(0.055)	(0.066)	(0.066)
CET1$_{t-1}$	0.1989	0.2153	0.2340	0.3571*	0.1883	0.2111	0.2148	0.3331
	(0.169)	(0.155)	(0.217)	(0.207)	(0.170)	(0.156)	(0.215)	(0.206)
ROA$_{t-1}$	-2.4992	-3.0705*	-1.2793	-2.0050	-2.7418*	-3.2819**	-1.5446	-2.2193
	(1.598)	(1.625)	(1.810)	(1.781)	(1.587)	(1.610)	(1.793)	(1.764)
CASH/TA$_{t-1}$	-0.2515**	-0.2638**	-0.2771**	-0.2962**	-0.2415**	-0.2532**	-0.2663**	-0.2836**
	(0.110)	(0.108)	(0.128)	(0.128)	(0.108)	(0.106)	(0.125)	(0.125)
DEP/TA$_{t-1}$	0.0975	0.0901	0.1832	0.1929	0.1134	0.1042	0.1963	0.2026
	(0.364)	(0.354)	(0.413)	(0.402)	(0.361)	(0.352)	(0.412)	(0.401)
NPLs$_{t-1}$	0.4939	0.5811	0.3348	0.4174	0.4746	0.5592	0.3135	0.3952
	(0.390)	(0.361)	(0.360)	(0.341)	(0.385)	(0.358)	(0.355)	(0.337)
TSCR$_{t-1}$	-1.1253	-1.4764	0.1056	-0.2988	-1.2712	-1.6225	0.0333	-0.3680
	(1.775)	(1.750)	(1.595)	(1.567)	(1.767)	(1.742)	(1.586)	(1.560)
PROV/TA$_{t-1}$	0.7827	0.9321	2.8200	3.9699	0.9832	1.1236	3.1993	4.2566
	(2.033)	(2.035)	(3.280)	(3.519)	(2.009)	(2.011)	(3.259)	(3.494)
lnTA$_{t-1}$ × MP Tightening			-0.0160*	-0.0155*			-0.0170**	-0.0166*
			(0.008)	(0.009)			(0.008)	(0.008)
CET1$_{t-1}$ × MP Tightening			-0.1647	-0.3059			-0.1626	-0.2907
			(0.221)	(0.226)			(0.221)	(0.226)
ROA$_{t-1}$ × MP Tightening			-2.9206	-2.6370			-2.8959	-2.6520
			(2.450)	(2.343)			(2.433)	(2.333)
CASH/TA$_{t-1}$ × MP Tightening			0.0271	0.0386			0.0330	0.0424
			(0.085)	(0.085)			(0.083)	(0.083)
DEP/TA$_{t-1}$ × MP Tightening			-0.2328	-0.2351			-0.2345	-0.2375
			(0.148)	(0.152)			(0.148)	(0.152)
NPLs$_{t-1}$ × MP Tightening			0.2856	0.3606*			0.2990	0.3612*
			(0.191)	(0.186)			(0.189)	(0.187)
TSCR$_{t-1}$ × MP Tightening			-1.3614***	-1.2413***			-1.4117***	-1.2957***
			(0.451)	(0.417)			(0.456)	(0.423)
PROV/TA$_{t-1}$ × MP Tightening			-3.9363	-5.4209			-4.4257	-5.7787*
			(3.156)	(3.419)			(3.122)	(3.382)
Maturity (log)	-0.0295***	-0.0294***	-0.0298***	-0.0296***	-0.0101	-0.0099	-0.0104	-0.0101
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Impairment_r	-0.0079	-0.0079	-0.0087	-0.0087	-0.0060	-0.0060	-0.0068	-0.0068
	(0.049)	(0.049)	(0.049)	(0.049)	(0.050)	(0.050)	(0.049)	(0.049)
Observations	3,123,451	3,123,133	3,123,451	3,123,133	3,123,451	3,123,133	3,123,451	3,123,133
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Collateral FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Maturity FE	Yes	Yes	Yes	Yes	No	No	No	No
IR type FE	No	No	No	No	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank	Bank	Bank

Table B11: Robustness: CRE - Maturity & Interest Rate Type Fixed Effects

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: CRE dummy							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cum. ΔCBR × MP Tightening	-1.3917***	-1.4552***	-2.1481***	-2.2210***	-1.2180**	-1.2311**	-2.0353***	-2.0692***
	(0.483)	(0.526)	(0.541)	(0.543)	(0.530)	(0.600)	(0.559)	(0.578)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		0.0667		0.1563		-0.1221		0.0208
		(1.733)		(1.757)		(1.745)		(1.772)
$lnTA_{t-1}$	-0.0254***	-0.0261***	-0.0178**	-0.0190**	-0.0205**	-0.0214***	-0.0125	-0.0137*
	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
$CET1_{t-1}$	-0.0388	-0.0291	-0.0416	-0.0468	-0.0313	-0.0231	-0.0285	-0.0346
	(0.029)	(0.028)	(0.032)	(0.031)	(0.030)	(0.029)	(0.034)	(0.033)
ROA_{t-1}	-0.4267**	-0.4163**	-0.1385	-0.1073	-0.4212**	-0.4121**	-0.1127	-0.0864
	(0.198)	(0.187)	(0.253)	(0.237)	(0.207)	(0.197)	(0.264)	(0.249)
$CASH/TA_{t-1}$	0.0159	0.0165	0.0383	0.0404	0.0145	0.0149	0.0360	0.0378
	(0.019)	(0.019)	(0.026)	(0.027)	(0.020)	(0.019)	(0.026)	(0.027)
DEP/TA_{t-1}	0.0631*	0.0597*	0.0791**	0.0747**	0.0443	0.0410	0.0624*	0.0582*
	(0.033)	(0.032)	(0.032)	(0.031)	(0.037)	(0.036)	(0.034)	(0.034)
$NPLs_{t-1}$	-0.0992	-0.1000	-0.1187	-0.1166	-0.0841	-0.0851	-0.1021	-0.0998
	(0.070)	(0.069)	(0.074)	(0.074)	(0.068)	(0.067)	(0.075)	(0.074)
$TSCR_{t-1}$	-0.1344	-0.1531	0.0030	-0.0145	-0.0869	-0.1035	0.0224	0.0092
	(0.172)	(0.168)	(0.169)	(0.166)	(0.176)	(0.172)	(0.174)	(0.170)
$PROV/TA_{t-1}$	0.7502**	0.7744**	0.3431	0.2460	0.6183*	0.6471*	0.2024	0.1099
	(0.345)	(0.342)	(0.351)	(0.344)	(0.352)	(0.348)	(0.352)	(0.346)
$lnTA_{t-1}$ × MP Tightening			0.0026***	0.0024**			0.0029***	0.0028***
			(0.001)	(0.001)			(0.001)	(0.001)
$CET1_{t-1}$ × MP Tightening			0.0403*	0.0562**			0.0371	0.0527**
			(0.023)	(0.024)			(0.024)	(0.025)
ROA_{t-1} × MP Tightening			-0.6355***	-0.6768***			-0.6713***	-0.7074***
			(0.245)	(0.242)			(0.259)	(0.257)
$CASH/TA_{t-1}$ × MP Tightening			-0.0551**	-0.0581**			-0.0553**	-0.0580**
			(0.024)	(0.025)			(0.024)	(0.025)
DEP/TA_{t-1} × MP Tightening			0.0013	-0.0009			0.0018	0.0002
			(0.013)	(0.013)			(0.012)	(0.013)
$NPLs_{t-1}$ × MP Tightening			0.1097**	0.0913*			0.1039**	0.0859*
			(0.051)	(0.051)			(0.052)	(0.052)
$TSCR_{t-1}$ × MP Tightening			-0.2531***	-0.2602***			-0.2250**	-0.2357**
			(0.091)	(0.096)			(0.099)	(0.103)
$PROV/TA_{t-1}$ × MP Tightening			0.9649*	1.1543**			1.0466*	1.2290**
			(0.566)	(0.574)			(0.573)	(0.581)
Maturity (log)	0.0409***	0.0409***	0.0409***	0.0409***	0.0162***	0.0162***	0.0163***	0.0163***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.002)	(0.002)	(0.002)	(0.002)
Impairment_r	0.0084	0.0084	0.0082	0.0082	0.0080	0.0080	0.0077	0.0077
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Observations	3,441,951	3,441,633	3,441,951	3,441,633	3,441,951	3,441,633	3,441,951	3,441,633
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Maturity FE	Yes	Yes	Yes	Yes	No	No	No	No
IR type FE	No	No	No	No	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank	Bank	Bank

Table B12: Robustness: Liquid collateral - Maturity & Interest Rate Type Fixed Effects

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Liquid collateral dummy							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cum. ΔCBR × MP Tightening	4.7489**	3.4624*	3.2446**	2.4349**	4.6636**	3.4061*	3.2671**	2.4739*
	(2.301)	(1.774)	(1.349)	(1.238)	(2.315)	(1.813)	(1.391)	(1.300)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-0.1047		-0.9256		-0.1428		-0.9263
		(2.258)		(2.279)		(2.346)		(2.352)
lnTA$_{t-1}$	-0.0577	-0.0570	-0.0478	-0.0466	-0.0550	-0.0546	-0.0458	-0.0448
	(0.067)	(0.068)	(0.071)	(0.071)	(0.068)	(0.069)	(0.072)	(0.072)
CET1$_{t-1}$	-0.2014**	-0.1498**	-0.1954**	-0.1837**	-0.1980**	-0.1465**	-0.1905**	-0.1819**
	(0.086)	(0.060)	(0.090)	(0.082)	(0.083)	(0.058)	(0.085)	(0.079)
ROA$_{t-1}$	-1.7057	-1.7237	-0.5794	-0.6168	-1.7690	-1.7809	-0.6445	-0.6757
	(1.404)	(1.436)	(0.670)	(0.687)	(1.423)	(1.453)	(0.679)	(0.696)
CASH/TA$_{t-1}$	-0.2729**	-0.2563**	-0.2648***	-0.2559***	-0.2724**	-0.2560**	-0.2641***	-0.2550***
	(0.121)	(0.108)	(0.097)	(0.093)	(0.122)	(0.110)	(0.097)	(0.094)
DEP/TA$_{t-1}$	0.3421*	0.3233	0.3903*	0.3736*	0.3408*	0.3216	0.3884*	0.3710*
	(0.197)	(0.201)	(0.227)	(0.223)	(0.196)	(0.201)	(0.226)	(0.223)
NPLs$_{t-1}$	0.3033*	0.2929*	0.2655*	0.2520	0.3122*	0.3008*	0.2725*	0.2590
	(0.179)	(0.169)	(0.160)	(0.156)	(0.186)	(0.176)	(0.165)	(0.161)
TSCR$_{t-1}$	0.0608	0.0421	1.3370*	1.2483*	0.0286	0.0114	1.3048*	1.2218*
	(0.261)	(0.271)	(0.758)	(0.716)	(0.261)	(0.271)	(0.743)	(0.706)
PROV/TA$_{t-1}$	0.7652	0.8460	2.3612**	2.2767**	0.7603	0.8477	2.4077**	2.3007**
	(0.568)	(0.605)	(1.126)	(1.105)	(0.547)	(0.588)	(1.124)	(1.092)
lnTA$_{t-1}$ × MP Tightening			-0.0003	-0.0009			-0.0004	-0.0010
			(0.002)	(0.002)			(0.002)	(0.002)
CET1$_{t-1}$ × MP Tightening			0.1347	0.1507			0.1291	0.1489
			(0.104)	(0.102)			(0.100)	(0.099)
ROA$_{t-1}$ × MP Tightening			-2.4284	-2.4162			-2.4203	-2.4115
			(2.266)	(2.221)			(2.272)	(2.225)
CASH/TA$_{t-1}$ × MP Tightening			0.0279	0.0246			0.0301	0.0265
			(0.041)	(0.037)			(0.042)	(0.038)
DEP/TA$_{t-1}$ × MP Tightening			0.0657	0.0417			0.0664	0.0427
			(0.060)	(0.051)			(0.061)	(0.052)
NPLs$_{t-1}$ × MP Tightening			0.1585*	0.1368*			0.1685*	0.1432*
			(0.092)	(0.080)			(0.096)	(0.083)
TSCR$_{t-1}$ × MP Tightening			-1.2927**	-1.2603**			-1.2663**	-1.2409**
			(0.634)	(0.604)			(0.609)	(0.584)
PROV/TA$_{t-1}$ × MP Tightening			-3.3836**	-3.1034**			-3.4795**	-3.1642**
			(1.485)	(1.377)			(1.507)	(1.384)
Maturity (log)	-0.0110	-0.0110	-0.0110	-0.0110	-0.0055	-0.0055	-0.0055	-0.0055
	(0.009)	(0.009)	(0.009)	(0.009)	(0.004)	(0.004)	(0.004)	(0.004)
Impairment_r	-0.0019	-0.0020	-0.0026	-0.0027	-0.0021	-0.0022	-0.0028	-0.0029
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Observations	3,441,951	3,441,633	3,441,951	3,441,633	3,441,951	3,441,633	3,441,951	3,441,633
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Maturity FE	Yes	Yes	Yes	Yes	No	No	No	No
IR type FE	No	No	No	No	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank	Bank	Bank

Shorter sample

Our main macroprudential policy variable of interest, ΔCBR, represents increases in the CBR that took place before the onset of monetary policy tightening. This approach helps to mitigate endogeneity concerns, as it reduces the risk that capital buffer requirements were adjusted in response to the speed of monetary policy shifts. However, it does exclude some macroprudential measures announced during the rate-hiking cycle, mainly in 2023. To account for any potential impact of these in-cycle macroprudential measures on our findings, we limit our analysis to the initial three quarters following the start of monetary tightening, ending the sample period in the first quarter of 2023 rather than at year-end.

Tables B13 to B17 reports the results from this exercise. As shown, the findings are broadly in line with the baseline indicating that are not driven by the latest part of the sample period where other policy measures took place.

Table B13: Robustness: Intensive margin - shorter sample

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Δ ln (loans)					
	(1)	(2)	(3)	(4)	(5)	(6)
Cum. ΔCBR × MP Tightening	-1.9509***	-1.4139***	-1.5289**	-1.0636*	-0.7110	-0.6586
	(0.662)	(0.503)	(0.708)	(0.582)	(0.550)	(0.739)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-1.8263**	-1.8755**		-1.2940*	-1.4059*
		(0.845)	(0.886)		(0.732)	(0.779)
lnTA$_{t-1}$	0.0238*	0.0236*	0.0346**	0.0063	0.0061	0.0106
	(0.014)	(0.014)	(0.017)	(0.012)	(0.012)	(0.015)
CET1$_{t-1}$	-0.0433	-0.0317	-0.0856	-0.0738	-0.0625	-0.1275**
	(0.051)	(0.053)	(0.061)	(0.047)	(0.048)	(0.051)
ROA$_{t-1}$	1.1296***	0.9681***	0.6812**	0.9149***	0.7875**	0.6166**
	(0.316)	(0.332)	(0.294)	(0.311)	(0.308)	(0.290)
CASH/TA$_{t-1}$	0.0117	0.0151	0.0155	0.0180	0.0211	0.0318
	(0.036)	(0.039)	(0.043)	(0.040)	(0.042)	(0.046)
DEP/TA$_{t-1}$	0.0792	0.0469	0.0471	0.0447	0.0273	0.0195
	(0.084)	(0.077)	(0.081)	(0.069)	(0.070)	(0.072)
NPLs$_{t-1}$	0.0232	0.0098	0.0275	0.0032	-0.0015	0.0222
	(0.060)	(0.054)	(0.063)	(0.071)	(0.066)	(0.079)
TSCR$_{t-1}$	-0.1484	-0.2100	-0.4254*	-0.4620**	-0.5371**	-0.7021***
	(0.196)	(0.227)	(0.250)	(0.182)	(0.210)	(0.233)
PROV/TA$_{t-1}$	-0.1122	-0.0700	0.4271	-0.7451	-0.8413	-0.5924
	(0.653)	(0.681)	(0.666)	(0.932)	(0.923)	(0.977)
lnTA$_{t-1}$ × MP Tightening				-0.0012	-0.0017	-0.0018
				(0.001)	(0.001)	(0.001)
CET1$_{t-1}$ × MP Tightening				0.0142	0.0103	-0.0000
				(0.023)	(0.031)	(0.039)
ROA$_{t-1}$ × MP Tightening				0.5700*	0.5219*	0.3403
				(0.311)	(0.286)	(0.301)
CASH/TA$_{t-1}$ × MP Tightening				0.0089	0.0164	0.0119
				(0.024)	(0.021)	(0.023)
DEP/TA$_{t-1}$ × MP Tightening				0.0150	0.0137	0.0358**
				(0.014)	(0.015)	(0.018)
NPLs$_{t-1}$ × MP Tightening				0.0358	0.0417	0.0717
				(0.068)	(0.066)	(0.074)
TSCR$_{t-1}$ × MP Tightening				0.5340***	0.5086***	0.5026***
				(0.114)	(0.114)	(0.130)
PROV/TA$_{t-1}$ × MP Tightening				0.4434	0.7353	0.9192
				(1.074)	(1.076)	(1.178)
Maturity (log)	-0.0004	-0.0003	-0.0657***	-0.0004	-0.0004	-0.0662***
	(0.002)	(0.002)	(0.014)	(0.002)	(0.002)	(0.014)
Collateral/loan	-0.0147***	-0.0147***	-0.0418***	-0.0147***	-0.0148***	-0.0420***
	(0.001)	(0.001)	(0.004)	(0.001)	(0.001)	(0.004)
Observations	9,345,233	9,343,129	9,171,960	9,345,233	9,343,129	9,171,960
Bank FE	Yes	Yes	No	Yes	Yes	No
Firm × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Firm FE	No	No	Yes	No	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank

Table B14: Robustness: Extensive margin - shorter sample

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: D(new rel)					
	(1)	(2)	(3)	(4)	(5)	(6)
Cum. ΔCBR × MP Tightening	-1.8532**	-0.3237	1.3222	-0.8582	0.2994	1.6961
	(0.815)	(0.811)	(1.119)	(0.720)	(0.857)	(1.212)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-4.6646***	-2.5925*		-4.1961***	-2.1764
		(1.475)	(1.408)		(1.422)	(1.391)
lnTA$_{t-1}$	0.0209	0.0181	-0.0702**	0.0035	-0.0032	-0.0934***
	(0.038)	(0.036)	(0.032)	(0.037)	(0.035)	(0.030)
CET1$_{t-1}$	0.0175	0.0097	0.0836	0.0037	-0.0454	-0.0560
	(0.082)	(0.076)	(0.081)	(0.080)	(0.090)	(0.101)
ROA$_{t-1}$	2.4833***	2.4168***	3.0779***	2.5448***	2.5025***	3.9736***
	(0.662)	(0.696)	(0.738)	(0.730)	(0.732)	(0.806)
CASH/TA$_{t-1}$	0.1236*	0.1230	0.1272	0.1375*	0.1382	0.1512*
	(0.075)	(0.075)	(0.078)	(0.082)	(0.084)	(0.085)
DEP/TA$_{t-1}$	-0.0250	0.0146	0.0469	-0.0439	-0.0110	0.0194
	(0.114)	(0.093)	(0.092)	(0.096)	(0.082)	(0.081)
NPLs$_{t-1}$	-0.0375	-0.0123	-0.1931**	-0.0002	0.0233	-0.0890
	(0.092)	(0.078)	(0.091)	(0.096)	(0.089)	(0.096)
TSCR$_{t-1}$	-0.3812	-0.4075	-0.6128**	-0.5625*	-0.5487	-0.4121**
	(0.351)	(0.384)	(0.247)	(0.323)	(0.360)	(0.206)
PROV/TA$_{t-1}$	0.1935	0.8778	-0.0946	0.5317	0.3365	-0.3192
	(1.613)	(1.641)	(1.582)	(2.396)	(2.453)	(2.376)
lnTA$_{t-1}$ × MP Tightening				-0.0007	-0.0016	0.0003
				(0.001)	(0.002)	(0.002)
CET1$_{t-1}$ × MP Tightening				-0.0313	0.0369	0.1693***
				(0.030)	(0.047)	(0.054)
ROA$_{t-1}$ × MP Tightening				-0.1452	-0.1216	-2.6258***
				(0.633)	(0.628)	(0.581)
CASH/TA$_{t-1}$ × MP Tightening				-0.0024	0.0163	0.0468
				(0.045)	(0.040)	(0.054)
DEP/TA$_{t-1}$ × MP Tightening				0.0304	0.0362	0.0613*
				(0.031)	(0.029)	(0.031)
NPLs$_{t-1}$ × MP Tightening				-0.0128	-0.0175	-0.1294
				(0.081)	(0.083)	(0.093)
TSCR$_{t-1}$ × MP Tightening				0.5473***	0.3487**	0.1196
				(0.156)	(0.156)	(0.202)
PROV/TA$_{t-1}$ × MP Tightening				-1.4855	0.1212	-0.0590
				(1.949)	(2.151)	(2.304)
Maturity (log)	-0.0195***	-0.0194***	-0.0116***	-0.0195***	-0.0194***	-0.0121***
	(0.001)	(0.001)	(0.004)	(0.001)	(0.001)	(0.004)
Collateral/loan	-0.0013***	-0.0013***	0.0021***	-0.0013***	-0.0013***	0.0020***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
Observations	9,964,788	9,962,202	9,796,189	9,964,788	9,962,202	9,796,189
Bank FE	Yes	Yes	No	Yes	Yes	No
Firm × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Firm FE	No	No	Yes	No	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank

Table B15: Robustness: LTV - shorter sample

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: LTV			
	(1)	(2)	(3)	(4)
Cum. ΔCBR × MP Tightening	-4.5988	-2.1488	-3.9619*	-1.5962
	(3.427)	(2.050)	(2.304)	(1.908)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-13.0246		-14.5191*
		(8.942)		(8.239)
lnTA$_{t-1}$	0.3249***	0.3324***	0.3868***	0.3976***
	(0.098)	(0.095)	(0.111)	(0.109)
CET1$_{t-1}$	0.2510	0.2244	0.1773	0.2323
	(0.201)	(0.190)	(0.232)	(0.205)
ROA$_{t-1}$	-3.9184*	-4.6555**	-2.8376	-3.6721*
	(2.197)	(2.252)	(2.098)	(2.056)
CASH/TA$_{t-1}$	-0.2685**	-0.2899**	-0.2969**	-0.3105**
	(0.128)	(0.128)	(0.138)	(0.143)
DEP/TA$_{t-1}$	0.7900	0.8338	0.8772	0.9257
	(0.781)	(0.786)	(0.810)	(0.803)
NPLs$_{t-1}$	0.6316	0.7719	0.4422	0.5937
	(0.551)	(0.547)	(0.467)	(0.466)
TSCR$_{t-1}$	-1.4221	-2.1575	-0.2747	-0.9606
	(2.767)	(2.896)	(2.275)	(2.365)
PROV/TA$_{t-1}$	3.9709	4.5922	5.0326	6.1836
	(3.180)	(3.501)	(4.334)	(4.572)
lnTA$_{t-1}$ × MP Tightening			-0.0235**	-0.0239**
			(0.010)	(0.011)
CET1$_{t-1}$ × MP Tightening			-0.3528	-0.4520*
			(0.276)	(0.252)
ROA$_{t-1}$ × MP Tightening			-4.4351	-4.5199
			(3.164)	(3.282)
CASH/TA$_{t-1}$ × MP Tightening			-0.0118	-0.0097
			(0.110)	(0.115)
DEP/TA$_{t-1}$ × MP Tightening			-0.3557**	-0.3521*
			(0.180)	(0.185)
NPLs$_{t-1}$ × MP Tightening			0.2652	0.2826
			(0.269)	(0.254)
TSCR$_{t-1}$ × MP Tightening			-1.5368***	-1.5975***
			(0.436)	(0.449)
PROV/TA$_{t-1}$ × MP Tightening			1.6696	1.0457
			(3.200)	(3.663)
Maturity (log)	-0.0057	-0.0055	-0.0059	-0.0056
	(0.008)	(0.008)	(0.008)	(0.008)
Impairment_r	-0.0396	-0.0396	-0.0408	-0.0410
	(0.047)	(0.046)	(0.046)	(0.046)
Observations	2,199,938	2,199,620	2,199,938	2,199,620
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Collateral FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Table B16: Robustness: New lending - CRE collateral

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	CRE dummy - shorter sample			
	(1)	(2)	(3)	(4)
Cum. ΔCBR × MP Tightening	-1.3607***	-1.1224**	-1.8294***	-1.6046***
	(0.437)	(0.476)	(0.462)	(0.493)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-1.0404		-0.9823
		(1.714)		(1.756)
lnTA$_{t-1}$	-0.0203**	-0.0208***	-0.0122	-0.0138
	(0.008)	(0.008)	(0.009)	(0.008)
CET1$_{t-1}$	-0.0249	-0.0313	-0.0605	-0.0686*
	(0.034)	(0.033)	(0.038)	(0.037)
ROA$_{t-1}$	0.1510	0.1790	0.3149	0.3271
	(0.229)	(0.237)	(0.258)	(0.270)
CASH/TA$_{t-1}$	0.0110	0.0076	0.0264	0.0244
	(0.021)	(0.022)	(0.025)	(0.026)
DEP/TA$_{t-1}$	0.0104	0.0146	0.0264	0.0314
	(0.039)	(0.037)	(0.040)	(0.039)
NPLs$_{t-1}$	-0.0418	-0.0411	-0.0480	-0.0462
	(0.058)	(0.059)	(0.066)	(0.066)
TSCR$_{t-1}$	0.1298	0.1675	0.2092	0.2587
	(0.168)	(0.167)	(0.172)	(0.173)
PROV/TA$_{t-1}$	-0.0065	-0.0203	-0.0153	-0.0515
	(0.360)	(0.364)	(0.372)	(0.371)
lnTA$_{t-1}$ × MP Tightening			0.0015	0.0014
			(0.001)	(0.001)
CET1$_{t-1}$ × MP Tightening			0.0511*	0.0590**
			(0.028)	(0.029)
ROA$_{t-1}$ × MP Tightening			-0.7009***	-0.6746***
			(0.224)	(0.226)
CASH/TA$_{t-1}$ × MP Tightening			-0.0419	-0.0401
			(0.027)	(0.028)
DEP/TA$_{t-1}$ × MP Tightening			-0.0094	-0.0045
			(0.011)	(0.013)
NPLs$_{t-1}$ × MP Tightening			0.0644	0.0593
			(0.056)	(0.057)
TSCR$_{t-1}$ × MP Tightening			-0.1211	-0.1684*
			(0.085)	(0.093)
PROV/TA$_{t-1}$ × MP Tightening			0.3611	0.4093
			(0.600)	(0.632)
Maturity (log)	0.0167***	0.0167***	0.0167***	0.0167***
	(0.002)	(0.002)	(0.002)	(0.002)
Impairment_r	0.0115	0.0115	0.0113	0.0113
	(0.012)	(0.012)	(0.012)	(0.012)
Observations	2,324,201	2,323,883	2,324,201	2,323,883
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Table B17: Robustness: Liquid collateral - shorter sample

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Liquid collateral dummy			
	(1)	(2)	(3)	(4)
Cum. ΔCBR × MP Tightening	1.8629**	2.8038	1.2421**	2.4567
	(0.865)	(1.765)	(0.593)	(1.692)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-0.1889		-0.9794
		(2.319)		(2.319)
lnTA$_{t-1}$	0.0235	0.0241	0.0295	0.0268
	(0.017)	(0.018)	(0.019)	(0.017)
CET1$_{t-1}$	-0.0481*	-0.0735*	-0.0619**	-0.0668**
	(0.027)	(0.045)	(0.031)	(0.033)
ROA$_{t-1}$	-0.8369*	-0.8074*	-0.6482**	-0.6167**
	(0.447)	(0.431)	(0.312)	(0.283)
CASH/TA$_{t-1}$	-0.1491*	-0.1668*	-0.1207**	-0.1400*
	(0.080)	(0.099)	(0.055)	(0.076)
DEP/TA$_{t-1}$	0.1424**	0.1732*	0.1720**	0.2237*
	(0.071)	(0.089)	(0.087)	(0.127)
NPLs$_{t-1}$	0.0502	0.0782	0.0529	0.0948
	(0.072)	(0.101)	(0.068)	(0.106)
TSCR$_{t-1}$	0.0310	-0.0120	0.3563	0.4515
	(0.136)	(0.127)	(0.329)	(0.446)
PROV/TA$_{t-1}$	0.6290*	0.6403	0.9835**	1.0975*
	(0.381)	(0.402)	(0.460)	(0.603)
lnTA$_{t-1}$ × MP Tightening			0.0017	0.0021
			(0.001)	(0.001)
CET1$_{t-1}$ × MP Tightening			0.0532*	0.0473
			(0.031)	(0.031)
ROA$_{t-1}$ × MP Tightening			-0.6931	-0.5798
			(0.670)	(0.564)
CASH/TA$_{t-1}$ × MP Tightening			-0.0508	-0.0415
			(0.032)	(0.026)
DEP/TA$_{t-1}$ × MP Tightening			0.0208	0.0532
			(0.021)	(0.054)
NPLs$_{t-1}$ × MP Tightening			0.0938	0.1024
			(0.058)	(0.071)
TSCR$_{t-1}$ × MP Tightening			-0.4098**	-0.5757
			(0.206)	(0.397)
PROV/TA$_{t-1}$ × MP Tightening			-0.6569	-1.0063
			(0.577)	(0.737)
Maturity (log)	-0.0067	-0.0067	-0.0067	-0.0067
	(0.006)	(0.006)	(0.006)	(0.006)
Impairment_r	-0.0001	-0.0000	-0.0003	-0.0002
	(0.002)	(0.002)	(0.002)	(0.002)
Observations		-2.8871		-4.0058
		(3.203)		(4.309)
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Removing banks not facing increases in the CBR

While banks that did not experience any increase in the CBR can serve as a control group for those facing higher capital buffer requirements, it is also important to assess whether the intensity of the CBR increase plays a role. To examine this, we exclude banks that saw no increase in the CBR during the period leading up to monetary policy tightening, focusing instead on banks that experienced varying degrees of CBR increases.

Tables B18 to B22 present the results. Despite the reduced number of observations, the findings remain consistent with the baseline, indicating that our conclusions are robust even when considering the intensity of the CBR increase and excluding banks without any increase.

Table B18: Intensive margin - Removing Cum. ΔCBR = 0

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Δ ln (loans)					
	(1)	(2)	(3)	(4)	(5)	(6)
Cum. ΔCBR × MP Tightening	-1.1071	-0.4555	-0.5768	-0.7025	-0.2277	-0.1815
	(0.863)	(0.735)	(0.823)	(0.728)	(0.719)	(0.807)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-2.0150***	-1.9608**		-1.4934**	-1.4416**
		(0.778)	(0.825)		(0.605)	(0.667)
lnTA$_{t-1}$	0.0087	0.0098	0.0230*	-0.0002	0.0019	0.0062
	(0.011)	(0.010)	(0.013)	(0.009)	(0.009)	(0.012)
CET1$_{t-1}$	-0.0364	-0.0246	-0.0665	-0.0782	-0.0481	-0.0893*
	(0.054)	(0.054)	(0.067)	(0.048)	(0.048)	(0.053)
ROA$_{t-1}$	1.0361***	0.9532***	0.7436***	1.0061***	0.9305***	0.8366***
	(0.331)	(0.324)	(0.284)	(0.360)	(0.339)	(0.320)
CASH/TA$_{t-1}$	0.0058	0.0042	0.0125	0.0180	0.0131	0.0323
	(0.043)	(0.042)	(0.043)	(0.046)	(0.045)	(0.046)
DEP/TA$_{t-1}$	0.0444	0.0163	0.0047	0.0154	0.0037	-0.0208
	(0.061)	(0.053)	(0.055)	(0.056)	(0.054)	(0.057)
NPLs$_{t-1}$	0.2459*	0.2239*	0.2437*	0.2268	0.2206	0.2771**
	(0.144)	(0.134)	(0.133)	(0.140)	(0.135)	(0.138)
TSCR$_{t-1}$	0.2853	0.2813	0.0638	-0.0366	-0.0312	-0.2629
	(0.215)	(0.223)	(0.229)	(0.246)	(0.252)	(0.270)
PROV/TA$_{t-1}$	1.0540	1.0833	1.5448**	0.6544	0.7086	1.0408
	(0.762)	(0.774)	(0.744)	(1.220)	(1.229)	(1.327)
lnTA$_{t-1}$ × MP Tightening				-0.0001	-0.0007	-0.0010
				(0.001)	(0.001)	(0.002)
CET1$_{t-1}$ × MP Tightening				0.0444	0.0104	-0.0192
				(0.028)	(0.028)	(0.038)
ROA$_{t-1}$ × MP Tightening				-0.0534	-0.0144	-0.1479
				(0.345)	(0.316)	(0.327)
CASH/TA$_{t-1}$ × MP Tightening				-0.0065	-0.0012	-0.0007
				(0.020)	(0.019)	(0.022)
DEP/TA$_{t-1}$ × MP Tightening				-0.0052	-0.0102	0.0154
				(0.013)	(0.014)	(0.017)
NPLs$_{t-1}$ × MP Tightening				-0.0226	-0.0061	-0.0334
				(0.100)	(0.095)	(0.109)
TSCR$_{t-1}$ × MP Tightening				0.4861***	0.4623***	0.5500***
				(0.112)	(0.101)	(0.126)
PROV/TA$_{t-1}$ × MP Tightening				1.1206	1.0927	0.9422
				(1.308)	(1.287)	(1.370)
Maturity (log)	-0.0054**	-0.0054**	-0.0678***	-0.0055**	-0.0055**	-0.0681***
	(0.002)	(0.002)	(0.010)	(0.002)	(0.002)	(0.010)
Collateral/loan	-0.0140***	-0.0140***	-0.0360***	-0.0140***	-0.0140***	-0.0361***
	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)	(0.003)
Observations	10,228,219	10,227,912	10,088,349	10,228,219	10,227,912	10,088,349
Bank FE	Yes	Yes	No	Yes	Yes	No
Firm × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Firm FE	No	No	Yes	No	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank

Table B19: Extensive margin - Removing Cum. ΔCBR = 0

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: D(new rel)					
	(1)	(2)	(3)	(4)	(5)	(6)
Cum. ΔCBR × MP Tightening	-2.0869**	-0.5923	1.2722	-0.9227	-0.0444	1.6240
	(0.986)	(0.852)	(1.075)	(0.802)	(0.835)	(1.043)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-4.6666***	-3.6401**		-3.6978***	-2.6813**
		(1.515)	(1.493)		(1.245)	(1.155)
lnTA$_{t-1}$	-0.0143	-0.0170	-0.0803***	-0.0325	-0.0370	-0.1015***
	(0.029)	(0.026)	(0.029)	(0.028)	(0.024)	(0.027)
CET1$_{t-1}$	0.0702	0.0459	0.0754	0.0217	-0.0194	-0.0633
	(0.072)	(0.066)	(0.071)	(0.066)	(0.083)	(0.095)
ROA$_{t-1}$	1.5742***	1.5903***	2.3887***	1.8914***	1.8950***	3.4101***
	(0.397)	(0.421)	(0.523)	(0.445)	(0.475)	(0.590)
CASH/TA$_{t-1}$	0.0886	0.0803	0.1085*	0.0903	0.0770	0.1046*
	(0.060)	(0.056)	(0.059)	(0.056)	(0.053)	(0.055)
DEP/TA$_{t-1}$	-0.0122	0.0153	-0.0701	-0.0328	-0.0044	-0.0682
	(0.087)	(0.066)	(0.078)	(0.069)	(0.061)	(0.075)
NPLs$_{t-1}$	0.3102	0.3087*	0.1891	0.3574*	0.3646**	0.2259
	(0.202)	(0.182)	(0.231)	(0.199)	(0.184)	(0.218)
TSCR$_{t-1}$	0.1810	0.2477*	-0.0970	-0.1824	-0.0340	-0.1683
	(0.168)	(0.149)	(0.145)	(0.213)	(0.188)	(0.181)
PROV/TA$_{t-1}$	2.1490	2.7395*	2.4739**	4.1173*	4.0547*	3.6334*
	(1.332)	(1.433)	(1.172)	(2.273)	(2.252)	(2.154)
lnTA$_{t-1}$ × MP Tightening				-0.0004	-0.0019	0.0002
				(0.001)	(0.001)	(0.002)
CET1$_{t-1}$ × MP Tightening				0.0049	0.0421	0.1562**
				(0.031)	(0.060)	(0.070)
ROA$_{t-1}$ × MP Tightening				-0.7521	-0.6381	-2.1880***
				(0.494)	(0.479)	(0.437)
CASH/TA$_{t-1}$ × MP Tightening				0.0033	0.0248	0.0534
				(0.033)	(0.035)	(0.042)
DEP/TA$_{t-1}$ × MP Tightening				0.0348*	0.0344*	0.0557**
				(0.019)	(0.019)	(0.022)
NPLs$_{t-1}$ × MP Tightening				-0.1487	-0.2093	-0.3232*
				(0.146)	(0.152)	(0.169)
TSCR$_{t-1}$ × MP Tightening				0.7062***	0.5363***	0.3468**
				(0.136)	(0.105)	(0.158)
PROV/TA$_{t-1}$ × MP Tightening				-3.7016*	-2.8232	-2.4595
				(1.901)	(1.765)	(2.080)
Maturity (log)	-0.0181***	-0.0180***	-0.0101***	-0.0181***	-0.0181***	-0.0106***
	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.003)
Collateral/loan	-0.0014***	-0.0014***	0.0013**	-0.0014***	-0.0014***	0.0013**
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
Observations	10,878,690	10,878,372	10,728,814	10,878,690	10,878,372	10,728,814
Bank FE	Yes	Yes	No	Yes	Yes	No
Firm × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Firm FE	No	No	Yes	No	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank

Table B20: LTV - Removing Cum. ΔCBR = 0

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: LTV			
	(1)	(2)	(3)	(4)
Cum. ΔCBR × MP Tightening	-5.2431	-2.5365	-2.3886	1.2288
	(3.548)	(2.382)	(1.708)	(1.616)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-12.9735*		-17.3158**
		(7.603)		(7.368)
lnTA$_{t-1}$	0.2386***	0.2346***	0.2531***	0.2503***
	(0.086)	(0.082)	(0.093)	(0.092)
CET1$_{t-1}$	0.2168	0.2292	0.1909	0.3389
	(0.246)	(0.225)	(0.319)	(0.322)
ROA$_{t-1}$	-2.9685	-3.6350*	-1.9143	-2.8140
	(1.876)	(1.904)	(2.048)	(2.055)
CASH/TA$_{t-1}$	-0.3560***	-0.3756***	-0.3933***	-0.4241***
	(0.122)	(0.117)	(0.140)	(0.143)
DEP/TA$_{t-1}$	0.2368	0.2244	0.3000	0.2857
	(0.402)	(0.393)	(0.454)	(0.443)
NPLs$_{t-1}$	0.2202	0.4075	0.0658	0.2345
	(0.623)	(0.543)	(0.568)	(0.514)
TSCR$_{t-1}$	-1.2898	-1.6399	0.7544	0.4734
	(2.252)	(2.187)	(1.943)	(1.875)
PROV/TA$_{t-1}$	3.3234	3.4373	5.8047	6.9130
	(2.619)	(2.643)	(4.693)	(5.054)
lnTA$_{t-1}$ × MP Tightening			-0.0308***	-0.0314***
			(0.010)	(0.010)
CET1$_{t-1}$ × MP Tightening			-0.2747	-0.4438
			(0.313)	(0.338)
ROA$_{t-1}$ × MP Tightening			-2.6370	-2.1278
			(2.518)	(2.387)
CASH/TA$_{t-1}$ × MP Tightening			0.1391	0.1533
			(0.103)	(0.104)
DEP/TA$_{t-1}$ × MP Tightening			-0.2947*	-0.2954*
			(0.161)	(0.168)
NPLs$_{t-1}$ × MP Tightening			0.0216	0.0602
			(0.311)	(0.321)
TSCR$_{t-1}$ × MP Tightening			-1.5825***	-1.6135***
			(0.554)	(0.502)
PROV/TA$_{t-1}$ × MP Tightening			-5.5716	-6.9366
			(4.395)	(4.764)
Maturity (log)	-0.0111	-0.0109	-0.0113	-0.0111
	(0.009)	(0.009)	(0.009)	(0.009)
Impairment_r	0.0123	0.0125	0.0114	0.0114
	(0.051)	(0.051)	(0.050)	(0.050)
Observations	2,873,439	2,873,439	2,873,439	2,873,439
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Collateral FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Table B21: CRE collateral - Removing Cum. ΔCBR = 0

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: CRE dummy			
	(1)	(2)	(3)	(4)
Cum. ΔCBR × MP Tightening	-1.0895***	-1.2012***	-1.7409***	-1.9587***
	(0.366)	(0.421)	(0.392)	(0.417)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		0.2258		0.7523
		(1.744)		(1.782)
lnTA$_{t-1}$	-0.0207**	-0.0209**	-0.0140	-0.0143
	(0.010)	(0.010)	(0.010)	(0.010)
CET1$_{t-1}$	-0.0223	-0.0146	-0.0592	-0.0649
	(0.034)	(0.032)	(0.042)	(0.040)
ROA$_{t-1}$	-0.5059**	-0.4890**	-0.2438	-0.1899
	(0.240)	(0.226)	(0.295)	(0.273)
CASH/TA$_{t-1}$	0.0222	0.0235	0.0666**	0.0697**
	(0.022)	(0.022)	(0.028)	(0.030)
DEP/TA$_{t-1}$	0.0593	0.0571	0.0664*	0.0642*
	(0.039)	(0.039)	(0.037)	(0.038)
NPLs$_{t-1}$	-0.0175	-0.0253	0.0139	0.0067
	(0.087)	(0.085)	(0.091)	(0.089)
TSCR$_{t-1}$	0.0037	0.0018	0.0944	0.0796
	(0.210)	(0.204)	(0.215)	(0.205)
PROV/TA$_{t-1}$	0.9831**	0.9996***	0.4774	0.3886
	(0.395)	(0.386)	(0.426)	(0.417)
lnTA$_{t-1}$ × MP Tightening			0.0037***	0.0036***
			(0.001)	(0.001)
CET1$_{t-1}$ × MP Tightening			0.0701**	0.0858**
			(0.031)	(0.033)
ROA$_{t-1}$ × MP Tightening			-0.5641**	-0.6180**
			(0.273)	(0.281)
CASH/TA$_{t-1}$ × MP Tightening			-0.0886***	-0.0915***
			(0.021)	(0.023)
DEP/TA$_{t-1}$ × MP Tightening			0.0037	0.0004
			(0.013)	(0.014)
NPLs$_{t-1}$ × MP Tightening			0.1602**	0.1418*
			(0.071)	(0.074)
TSCR$_{t-1}$ × MP Tightening			-0.1657*	-0.1576*
			(0.094)	(0.091)
PROV/TA$_{t-1}$ × MP Tightening			1.0334	1.1924*
			(0.687)	(0.680)
Maturity (log)	0.0147***	0.0147***	0.0147***	0.0147***
	(0.002)	(0.002)	(0.002)	(0.002)
Impairment_r	0.0155**	0.0155**	0.0153**	0.0153**
	(0.008)	(0.008)	(0.008)	(0.008)
Observations	3,187,687	3,187,687	3,187,687	3,187,687
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Table B22: Liquid collaterals - Removing Cum. ΔCBR = 0

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Liquid collateral dummy			
	(1)	(2)	(3)	(4)
Cum. ΔCBR × MP Tightening	5.8399**	4.6910**	3.7843***	3.3198**
	(2.741)	(2.331)	(1.458)	(1.555)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-0.8993		-2.2293
		(2.627)		(2.600)
lnTA$_{t-1}$	-0.0778	-0.0771	-0.0704	-0.0690
	(0.086)	(0.088)	(0.091)	(0.091)
CET1$_{t-1}$	-0.2558**	-0.1900**	-0.2684*	-0.2541*
	(0.111)	(0.080)	(0.146)	(0.135)
ROA$_{t-1}$	-2.3015	-2.3362	-0.9999	-1.0724
	(1.699)	(1.738)	(0.831)	(0.858)
CASH/TA$_{t-1}$	-0.3569**	-0.3399**	-0.3425***	-0.3374***
	(0.157)	(0.144)	(0.118)	(0.116)
DEP/TA$_{t-1}$	0.3729*	0.3527	0.4441*	0.4252*
	(0.215)	(0.222)	(0.241)	(0.239)
NPLs$_{t-1}$	0.6064	0.5833	0.4345	0.4152
	(0.400)	(0.376)	(0.265)	(0.267)
TSCR$_{t-1}$	0.3718	0.3184	2.0288**	1.9452**
	(0.345)	(0.359)	(0.948)	(0.940)
PROV/TA$_{t-1}$	1.0796	1.2286	3.0447**	2.9924**
	(0.761)	(0.811)	(1.442)	(1.461)
lnTA$_{t-1}$ × MP Tightening			-0.0001	-0.0010
			(0.003)	(0.003)
CET1$_{t-1}$ × MP Tightening			0.1710	0.1843
			(0.142)	(0.133)
ROA$_{t-1}$ × MP Tightening			-2.8637	-2.8065
			(2.598)	(2.531)
CASH/TA$_{t-1}$ × MP Tightening			0.0443	0.0430
			(0.050)	(0.047)
DEP/TA$_{t-1}$ × MP Tightening			0.0618	0.0386
			(0.057)	(0.049)
NPLs$_{t-1}$ × MP Tightening			0.3608*	0.3325*
			(0.213)	(0.196)
TSCR$_{t-1}$ × MP Tightening			-1.6156**	-1.6121**
			(0.680)	(0.669)
PROV/TA$_{t-1}$ × MP Tightening			-4.4867**	-4.1596**
			(2.033)	(1.938)
Maturity (log)	-0.0058	-0.0057	-0.0057	-0.0056
	(0.005)	(0.005)	(0.005)	(0.004)
Impairment_r	-0.0017	-0.0019	-0.0027	-0.0028
	(0.003)	(0.003)	(0.003)	(0.003)
Observations	3,187,687	3,187,687	3,187,687	3,187,687
Bank FE	Yes	Yes	Yes	Yes
ILS × Time FE	Yes	Yes	Yes	Yes
Double interactions	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank

Controlling for government guarantees

Our sample period excludes the peak of the COVID-19 pandemic to avoid that the significant surge in firms' credit demand and the fiscal measures implemented in response to the pandemic affect our estimates (see Couaillier et al. 2024). However, some interventions—most notably government guarantee schemes—remained active in 2021, with most programs concluding by late 2021 or mid-2022. These guarantees were pivotal in facilitating firms' access to bank loans while mitigating banks' credit risk (Altavilla et al. 2022; Jimenez et al. 2022). Although the peak of these guarantees coincided with the pandemic shock, minimizing their potential influence on our estimates, we conducted an additional analysis incorporating the share of loans under guarantees at the bank-firm level. We identified COVID-guaranteed loans using credit register data, including the Legal Entity Identifiers of promotional lenders responsible for guarantee issuance in each country (e.g., ICO in Spain, KFW in Germany, BPI in France, and SACE/Fondo di Garanzia in Italy). This was complemented by using the starting dates of public guarantee programs as an additional identification criterion.[21]

The results, presented in Tables B23 and B24, confirm that our estimates are unaffected by government guarantee schemes. The sign, magnitude, and statistical significance of our variables of interest remain consistent with the baseline results. Moreover, the coefficient for the share of government guarantees is positive and statistically significant, reinforcing the existing literature on the effectiveness of guarantees in supporting lending during the COVID-19 pandemic.

[21] This test is not needed for the new loan origination analysis as collateral type fixed effects are already capturing loans protected by government guarantees while for CRE and liquid collateral dummies the flag for whether a loan is granted under government guarantees is always zero.

Table B23: Intensive margin - controlling for government guarantees

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: Δ ln (loans)					
	(1)	(2)	(3)	(4)	(5)	(6)
Cum. ΔCBR × MP Tightening	-0.8944	-0.3287	-0.7028	-0.4454	0.0033	-0.1236
	(0.849)	(0.783)	(0.846)	(0.737)	(0.752)	(0.854)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-1.6486**	-1.4993**		-1.3590**	-1.2308**
		(0.670)	(0.730)		(0.558)	(0.617)
lnTA$_{t-1}$	0.0043	0.0056	0.0145	-0.0008	0.0007	0.0024
	(0.008)	(0.008)	(0.011)	(0.008)	(0.007)	(0.009)
CET1$_{t-1}$	-0.0157	-0.0046	-0.0435	-0.0533	-0.0296	-0.0750*
	(0.041)	(0.043)	(0.053)	(0.035)	(0.037)	(0.041)
ROA$_{t-1}$	0.8094***	0.7379**	0.5414**	0.6970**	0.6483**	0.5505**
	(0.302)	(0.294)	(0.247)	(0.313)	(0.297)	(0.278)
CASH/TA$_{t-1}$	0.0015	0.0009	0.0116	0.0026	-0.0002	0.0174
	(0.038)	(0.039)	(0.038)	(0.042)	(0.042)	(0.042)
DEP/TA$_{t-1}$	0.0482	0.0241	0.0110	0.0262	0.0156	-0.0106
	(0.051)	(0.046)	(0.048)	(0.048)	(0.048)	(0.049)
NPLs$_{t-1}$	0.0064	-0.0087	-0.0004	-0.0091	-0.0183	0.0025
	(0.066)	(0.063)	(0.073)	(0.091)	(0.087)	(0.101)
TSCR$_{t-1}$	0.1729	0.1580	-0.0558	-0.0669	-0.0862	-0.2945
	(0.181)	(0.192)	(0.197)	(0.207)	(0.217)	(0.228)
PROV/TA$_{t-1}$	0.2524	0.2467	0.5665	-0.3181	-0.2702	-0.1260
	(0.521)	(0.522)	(0.503)	(0.895)	(0.918)	(1.016)
lnTA$_{t-1}$ × MP Tightening				-0.0002	-0.0006	-0.0009
				(0.001)	(0.001)	(0.001)
CET1$_{t-1}$ × MP Tightening				0.0447*	0.0218	0.0026
				(0.023)	(0.025)	(0.035)
ROA$_{t-1}$ × MP Tightening				0.1242	0.1200	0.0142
				(0.273)	(0.260)	(0.294)
CASH/TA$_{t-1}$ × MP Tightening				0.0048	0.0089	0.0122
				(0.019)	(0.017)	(0.021)
DEP/TA$_{t-1}$ × MP Tightening				-0.0069	-0.0102	0.0167
				(0.014)	(0.015)	(0.018)
NPLs$_{t-1}$ × MP Tightening				-0.0003	0.0037	0.0241
				(0.069)	(0.067)	(0.077)
TSCR$_{t-1}$ × MP Tightening				0.3478***	0.3409***	0.3965***
				(0.097)	(0.093)	(0.113)
PROV/TA$_{t-1}$ × MP Tightening				1.0483	1.0238	1.0112
				(1.108)	(1.095)	(1.191)
Maturity (log)	-0.0014	-0.0014	-0.0558***	-0.0014	-0.0014	-0.0561***
	(0.002)	(0.002)	(0.011)	(0.002)	(0.002)	(0.011)
Collateral/loan	-0.0143***	-0.0143***	-0.0387***	-0.0143***	-0.0143***	-0.0387***
	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)	(0.003)
Sh.Guara	0.0382***	0.0377***	0.0329***	0.0369***	0.0366***	0.0312***
	(0.006)	(0.006)	(0.004)	(0.006)	(0.006)	(0.004)
Observations	12,843,760	12,841,651	12,673,110	12,843,760	12,841,651	12,673,110
Bank FE	Yes	Yes	No	Yes	Yes	No
Firm × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Firm FE	No	No	Yes	No	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank

Table B24: Extensive margin - controlling for government guarantees

This table shows the results of the bank-firm level panel regressions. For a detailed definition of the variables refer to Table 1. *, **, *** indicate statistical significance of 1%, 5% and 10% respectively.

	Endogenous variable: D(new rel)					
	(1)	(2)	(3)	(4)	(5)	(6)
Cum. ΔCBR × MP Tightening	-1.6267**	-0.2089	1.2671	-0.6751	0.4145	1.5803
	(0.749)	(0.749)	(0.977)	(0.664)	(0.795)	(1.007)
Cum. ΔCBR × MP Tightening × D(D2CBR<Tercile)		-4.3033***	-3.0668**		-3.8393***	-2.5115**
		(1.361)	(1.417)		(1.261)	(1.271)
lnTA$_{t-1}$	-0.0035	-0.0054	-0.0820***	-0.0145	-0.0185	-0.0974***
	(0.028)	(0.027)	(0.028)	(0.027)	(0.025)	(0.026)
CET1$_{t-1}$	0.0433	0.0334	0.0799	0.0085	-0.0297	-0.0519
	(0.066)	(0.059)	(0.064)	(0.060)	(0.071)	(0.080)
ROA$_{t-1}$	1.9934***	1.9926***	2.7813***	2.3796***	2.3642***	3.8907***
	(0.576)	(0.573)	(0.639)	(0.716)	(0.701)	(0.786)
CASH/TA$_{t-1}$	0.1026*	0.0999*	0.1154**	0.1137*	0.1088*	0.1327**
	(0.056)	(0.055)	(0.059)	(0.062)	(0.061)	(0.065)
DEP/TA$_{t-1}$	-0.0167	0.0008	-0.0534	-0.0290	-0.0189	-0.0691
	(0.075)	(0.061)	(0.078)	(0.068)	(0.061)	(0.079)
NPLs$_{t-1}$	-0.0353	-0.0200	-0.1999*	0.0133	0.0246	-0.0657
	(0.070)	(0.062)	(0.109)	(0.090)	(0.088)	(0.122)
TSCR$_{t-1}$	-0.1054	-0.0855	-0.4066**	-0.3017	-0.2123	-0.2944*
	(0.193)	(0.214)	(0.174)	(0.185)	(0.187)	(0.169)
PROV/TA$_{t-1}$	0.0393	0.5067	-0.2014	0.8156	0.5643	-0.2478
	(1.311)	(1.312)	(1.254)	(2.179)	(2.243)	(2.227)
lnTA$_{t-1}$ × MP Tightening				-0.0004	-0.0012	0.0009
				(0.001)	(0.001)	(0.002)
CET1$_{t-1}$ × MP Tightening				-0.0096	0.0382	0.1554***
				(0.029)	(0.045)	(0.054)
ROA$_{t-1}$ × MP Tightening				-0.8630	-0.8118	-2.3328***
				(0.525)	(0.501)	(0.521)
CASH/TA$_{t-1}$ × MP Tightening				-0.0077	0.0086	0.0279
				(0.035)	(0.033)	(0.039)
DEP/TA$_{t-1}$ × MP Tightening				0.0201	0.0242	0.0521*
				(0.026)	(0.024)	(0.030)
NPLs$_{t-1}$ × MP Tightening				-0.0109	-0.0170	-0.1548*
				(0.074)	(0.077)	(0.085)
TSCR$_{t-1}$ × MP Tightening				0.4858***	0.3356***	0.1068
				(0.146)	(0.128)	(0.168)
PROV/TA$_{t-1}$ × MP Tightening				-1.5425	-0.4233	0.0336
				(1.841)	(1.949)	(2.143)
Maturity (log)	-0.0186***	-0.0185***	-0.0109***	-0.0186***	-0.0186***	-0.0112***
	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)	(0.002)
Collateral/loan	-0.0011***	-0.0011***	0.0015***	-0.0011***	-0.0011***	0.0015***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
Sh.Guara	0.0165**	0.0161**	0.0156**	0.0150**	0.0149**	0.0154**
	(0.007)	(0.006)	(0.007)	(0.006)	(0.006)	(0.006)
Observations	13,649,739	13,647,148	13,465,239	13,649,739	13,647,148	13,465,239
Bank FE	Yes	Yes	No	Yes	Yes	No
Firm × Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank × Firm FE	No	No	Yes	No	No	Yes
Double interactions	Yes	Yes	Yes	Yes	Yes	Yes
Cluster S.E.	Bank	Bank	Bank	Bank	Bank	Bank

References

Altavilla, C., Ellul, A., Pagano, M., Polo, A., Vlassopoulos, T. (2021). Loan guarantees, bank lending and credit risk reallocation. *CEPR Working Paper DP16727, Centre for Economic Policy Research.*

Couaillier, C., Lo Duca, M., Reghezza, A., Rodriguez d'Acri, C. 2024. Caution: Do not cross! Distance to regulatory capital buffers and corporate lending in a downturn *Journal of Money, Credit and Banking*, Early View.

Jimenez, G., Laeven, L., Martinez-Miera, D., Peydro, J.L. (2022). Public guarantees, relationship lending and bank credit: Evidence from the COVID-19 crisis. CEPR Discussion Paper, No.17110.

Acknowledgements

The authors are thankful to Carsten Detken, Gert Peersman, Klaas Mulier, colleagues in the Directorate General Macroprudential Policy and Financial Stability of the European Central Bank (ECB) and Monetary and Economic Department of the Bank for International Settlements (BIS), and conference/seminar participants at the Czech National Bank, European Central Bank and University of Ghent for helpful comments and suggestions. All errors are our responsibility. The dataset used in this paper contains confidential statistical information. Its use for the purpose of the analysis described in the text has been approved by the relevant ECB decision making bodies. All the necessary measures have been taken during the preparation of the analysis to ensure the physical and logical protection of the information.
The views expressed are those of the authors and do not necessarily reflect those of the ECB, the Eurosystem or the BIS.

Markus Behn
European Central Bank, Frankfurt am Main, Germany; email: markus.behn@ecb.europa.eu

Stijn Claessens
Yale University, Connecticut, United States; email: claessens.stijn@outlook.com

Leonardo Gambacorta
Bank for International Settlements, Basel, Switzerland; email: leonardo.gambacorta@bis.org

Alessio Reghezza
European Central Bank, Frankfurt am Main, Germany; email: alessio.reghezza@ecb.europa.eu

Postal address 60640 Frankfurt am Main, Germany
Telephone +49 69 1344 0
Website www.ecb.europa.eu

PDF ISBN 978-92-899-7222-2 ISSN 1725-2806 doi:10.2866/4063076 QB-01-25-103-EN-N