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Euroisation and the Bank Lending Channel of Monetary Policy: Evidence from Czechia

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ChaMP

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ChaMP is coordinated by a team chaired by Philipp Hartmann (ECB), and consisting of Diana Bonfim (Banco de Portugal), Margherita Bottero (Banca d'Italia), Emmanuel Dhyne (Nationale Bank van België/Banque Nationale de Belgique) and Maria T. Valderrama (Oesterreichische Nationalbank), who are supported by Melina Papoutsi and Gonzalo Paz-Pardo (both ECB), 7 central bank advisers and 8 academic consultants.

ChaMP seeks to revisit our knowledge of monetary transmission channels in the euro area in the context of unprecedented shocks, multiple ongoing structural changes and the extension of the monetary policy toolkit over the last decade and a half as well as the recent steep inflation wave and its reversal. More information about it is provided on its website.

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Euroisation and the Bank Lending Channel of Monetary Policy: Evidence from Czechia

Zuzana Gric, Jan Janků, and Simona Malovaná *

Abstract

We show that divergences between Czech and euro-area policy rates reshape the currency composition of corporate lending. Using loan-level data from AnaCredit for 2019–2024, we document that a widening PRIBOR–EURIBOR spread triggers a sharp reallocation toward euro-denominated credit, concentrated in new loans. The effect is asymmetric: strong when the differential widens, but only partially reversible when it narrows. It is driven mainly by large, less-capitalised banks and by larger, lower-leverage firms, while exchange-rate movements play virtually no role. These findings imply that persistent positive differentials weaken domestic monetary transmission and increase foreign-currency exposures, underscoring the need for macroprudential attention in small open economies with rising euroisation.

JEL Codes: E51, E52, E58, G21, G28.
Keywords: AnaCredit, bank lending, corporate credit, credit channel, euroization, monetary policy.

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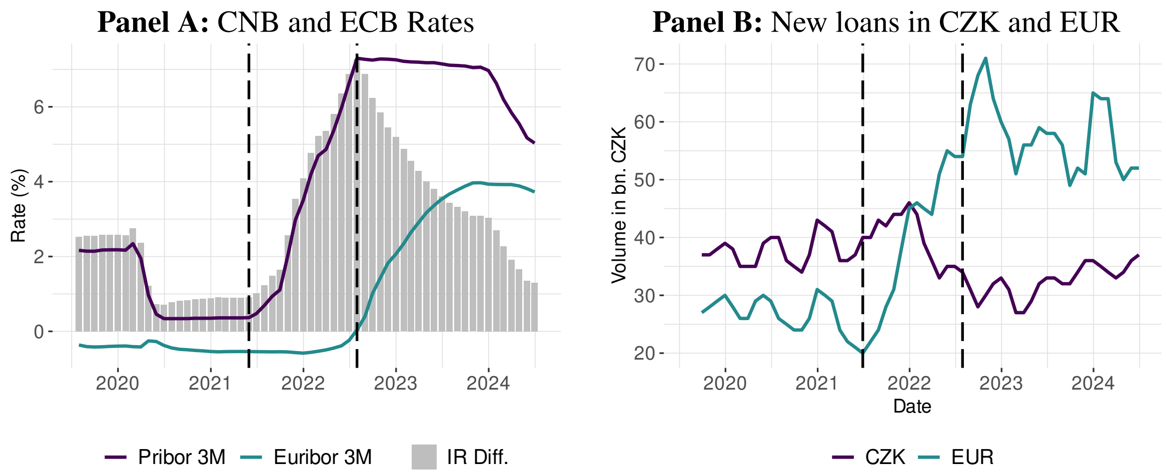
1. Introduction

The effectiveness of domestic monetary policy critically depends on whether banks transmit policy rate changes into corporate lending conditions. In small open economies with rising foreign-currency borrowing, this transmission can be diluted when domestic and foreign policy rates diverge.

Czechia provides a natural laboratory for this question. Over the past decade, corporate debt has become increasingly euroised, with a large share of new borrowing denominated in euros. When the Czech National Bank (CNB) raised policy rates sharply in 2021–2022 while the European Central Bank (ECB) kept rates near zero, the spread between PRIBOR and EURIBOR widened to historic highs. During this episode, euro-denominated loans rapidly overtook koruna loans in new lending (Figure 1), even as the stock adjusted more slowly (Figure 3).

Figure 1: Policy Rate Differential and New Loan Volumes in CZK and EUR



Note: Vertical lines mark the start of CNB (June 2021) and ECB (July 2022) rate hikes. Panel B shows new loans to Czech non-financial corporations, split by original currency of denomination (CZK vs. EUR). New loans include term loans, overdrafts, revolving loans, and other loans. A "loan" is defined as the sum of credit exposures (including off-balance-sheet items) from a bank to a firm in a given month. Loan volumes are winsorized at the 0.1% level; loans under government Covid-19 programmes and those below CZK 25,000 are excluded. Series are smoothed with a three-month moving average.

This paper quantifies how relative monetary conditions shape the currency composition of bank lending. Using monthly loan-level data from the Czech AnaCredit database for 2019–2024, we isolate supply-side responses of banks to shifts in the PRIBOR–EURIBOR spread. We find that banks substantially reallocate new credit toward euros when koruna funding becomes more expensive, with only partial reversal once the spread narrows. The adjustment is strongest among large, less-capitalised banks and toward larger, lower-leverage firms, while exchange-rate movements have little effect. These findings highlight that persistent interest-rate differentials can weaken the bank-lending channel of domestic monetary policy and warrant macroprudential attention to sustained foreign-currency exposures.

The growing reliance of Czech firms on euro-denominated bank loans raises fundamental questions for monetary policy transmission. Bank loans remain the dominant source of external finance for most non-financial firms, particularly for small and medium-sized enterprises without access to bond markets or intragroup funding. Unlike intercompany loans or securities, bank credit is highly responsive to both interest rate changes and bank balance sheet conditions. As such, it is the primary channel through which domestic monetary policy affects the real economy. When this channel shifts toward foreign-currency lending, the influence of domestic policy on firms' borrowing costs and investment decisions is weakened.

The recent divergence between CNB and ECB policies illustrates this mechanism vividly. While the CNB raised its two-week repo rate by nearly seven percentage points between June 2021 and June 2022, the ECB maintained near-zero rates until July 2022. The resulting interest-rate differential made koruna borrowing prohibitively expensive relative to euro funding and coincided with a marked increase in new euro-denominated lending. Even after the differential narrowed in 2023, euro lending remained elevated, suggesting that shifts in the currency composition of credit may persist beyond the immediate policy cycle.

From a policy perspective, this dynamic matters for at least two reasons. First, if new lending systematically migrates into foreign currency whenever domestic policy tightens, the effectiveness of monetary transmission is undermined. Second, greater reliance on foreign-currency borrowing heightens financial stability risks by exposing firms and banks to exchange-rate mismatches and by shifting credit conditions to external monetary authorities. While Czech exporters benefit from natural hedging through euro revenues, not all firms do, and systemic exposure to foreign-currency credit can accumulate over time.

This paper contributes to a growing literature on currency-specific lending channels by providing micro-level evidence from a small open economy outside the euro area. Prior research has documented how foreign monetary policy shocks spill over through cross-border bank funding and global financial cycles. Our analysis instead focuses on the domestic supply of credit and shows how relative monetary conditions – captured by the PRIBOR–EURIBOR spread – reallocate lending between currencies within the same national banking system. This distinction is important: it highlights how euroisation of domestic credit can emerge endogenously, even without foreign banks or direct cross-border flows.

We also extend existing evidence in three ways. First, by focusing on new loans, we show that the response materialises rapidly in new credit origination. Second, we document an asymmetry: the shift into euro lending is strong when the spread widens, but the return to koruna lending when the spread narrows is weaker and slower. Third, we analyse heterogeneity across banks and firms, finding that the effect is concentrated in lending by large, less-capitalised banks and to larger, lower-leverage borrowers. These results underscore the relevance of both bank and firm balance sheets in shaping how relative monetary conditions influence credit allocation.

In doing so, the paper bridges the literature on the bank-lending channel of monetary policy with research on financial dollarisation and foreign-currency lending in Central and Eastern Europe. By exploiting granular loan-level data that cover an entire monetary policy cycle, we provide new insights into how domestic policy interacts with financial integration in partially euroised economies. The findings speak directly to current policy debates: they suggest that persistent rate differentials can erode the potency of domestic monetary policy and create vulnerabilities that warrant macroprudential oversight.

2. Literature Review

Classical accounts of monetary transmission distinguish a price channel – operating through interest rates, exchange rates, and asset prices – from a credit channel that works through bank balance sheets and borrower constraints (Bernanke and Gertler, 1995; Cecchetti, 1995). Our paper relates to the bank-lending channel, where tighter domestic monetary policy increases banks' funding costs and reduces lending (Kashyap and Stein, 2000). In open economies, this channel may weaken if banks substitute into foreign funding and import external monetary conditions (Cetorelli and Goldberg, 2012). A large body of literature documents the international transmission of U.S. and euro area policy through cross-border banking and global financial cycles (Chen et al., 2014; Bruno and Shin, 2015; Avdjiev et al., 2017; Buch et al., 2019; Morais et al., 2019; Miranda-Agrippino and Rey, 2020), showing how global banks propagate shocks across jurisdictions.

Our focus differs: rather than cross-border liability flows, we study how relative domestic and foreign monetary conditions shape the currency composition of credit supplied by local banks to local firms. This links to research on risk-taking channels and FX-swap frictions, which highlight how interest-rate differentials can reallocate lending across currencies and markets (Jiménez et al., 2014; Dell'Ariccia et al., 2017; Bräuning and Ivashina, 2020).

The closest study is Ongena et al. (2021), who use Hungarian credit registry data to show that domestic (foreign) monetary policy shocks primarily affect domestic-currency (FX) lending, pointing to currency-specific lending channels. We extend this evidence along several dimensions. Methodologically, we model bank–firm–currency relationships rather than firm–currency aggregates, which allows us to exploit the granularity of Czech AnaCredit data and retain observations even when firms borrow from a single bank in a single currency. This granularity makes it possible to study substitution on the supply side without restricting attention to the relatively small subset of multi-bank or multi-currency borrowers.

Substantively, we focus on new lending, showing that loan origination responds quickly to relative rate changes, while evidence from outstanding portfolios provides a consistent robustness check. We also explicitly distinguish between periods of widening and narrowing spreads, documenting an asymmetry in the adjustment: the shift into euro lending is strong when domestic rates rise relative to the euro area, but the return to koruna lending once the spread narrows is weaker and slower. Finally, we extend the registry approach such as in Ongena et al. (2021) but also as in Jiménez et al. (2012) and Jiménez et al. (2014) along several less-explored margins and explore heterogeneity across both banks and firms, finding stronger substitution among large, less-capitalised banks and toward larger, lower-leverage firms.

Our work also contributes to the literature on foreign-currency lending in Central and Eastern Europe. Prior research has emphasised structural drivers of FX borrowing, such as information frictions, pricing, institutional quality, and interest-rate differentials (Brown et al., 2011a, 2014; Takáts and Temesváry, 2020; Luca and Petrova, 2008), and linked high FX shares to financial dollarisation/eurization more broadly (Basso et al., 2011; Neanidis and Savva, 2015). Aggregate evidence from CEE generally finds that the domestic bank-lending channel is weaker in FX credit (Matousek and Sarantis, 2009; Haiss and Rainer, 2012; Kujundžić and Otašević, 2013; Chitu, 2012).

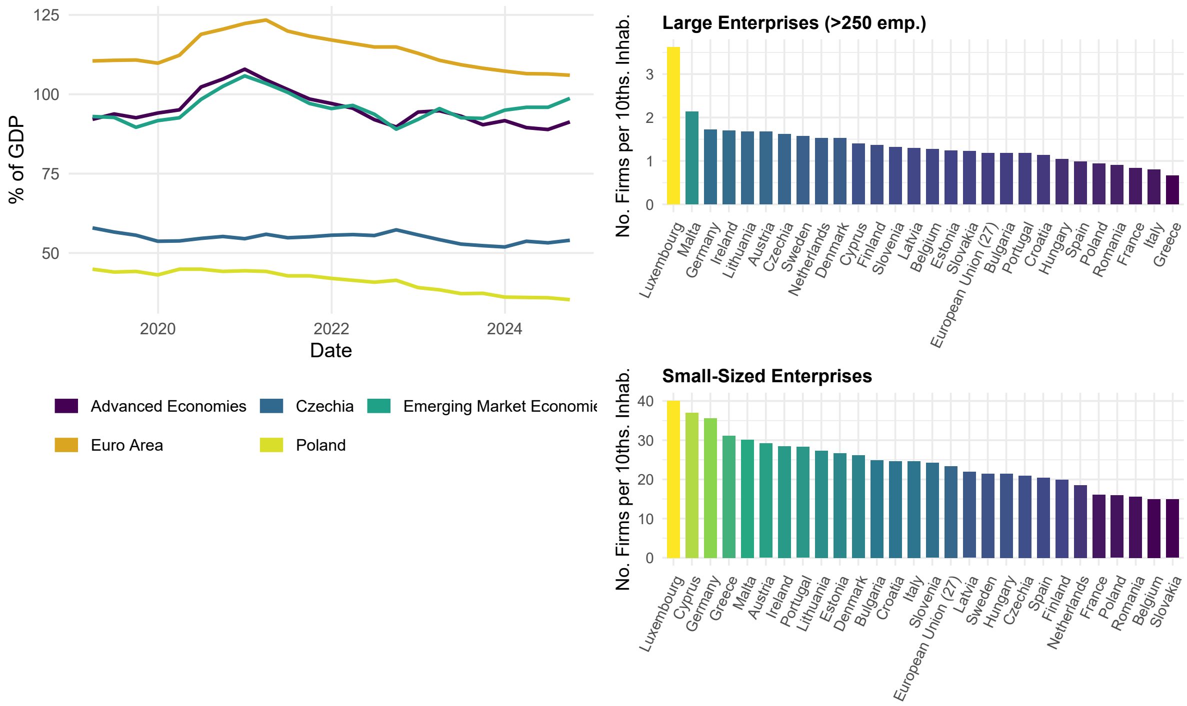
Finally, our paper is part of a growing set of empirical studies leveraging AnaCredit data to identify credit-supply shifts (Degryse et al., 2019; Fricke et al., 2024; Kosekova et al., 2025; Vilerts et al., 2025; Behn et al., 2025). Compared to these contributions, we focus specifically on the cross-currency margin, thereby bridging work on domestic bank lending with research on financial dollarisation and providing new micro-evidence on the erosion of monetary transmission in partially euroised economies.

3. Czech Corporate Debt in International Context

Relative to many European peers, Czech non-financial corporations remain only moderately indebted. According to BIS data, the stock of corporate loans and debt securities amounted to just under 60% of GDP in 2024, well below the euro-area average of 110% and also below the aggregate for advanced economies (Panel A, Figure 2). Several structural factors contribute to this: Czech firms rely heavily on retained earnings, supplier credit, and – in the case of multinational subsidiaries – intra-group financing. A conservative balance-sheet culture, reinforced by early macroprudential tightening and Basel III implementation, has also kept leverage low across firms, households, and the public sector (CNB, 2025).

Figure 2: Corporate Debt and Firm Demography in International Perspective

Panel A: Total Credit to NFC (% GDP) **Panel B:** Number of Enterprises by Country



Note: Panel A plots BIS data on total credit to resident non-financial corporations (bank loans plus bonds) as a share of GDP, 2019–2024. The measure aggregates bank loans, loans from non-bank financial institutions, direct government lending, and outstanding NFC debt securities held by any investor. Equity, trade credit, and intra-group loans are excluded, so the figures provide a broad but internationally comparable proxy for corporate indebtedness. Panel B ranks EU countries by the number of enterprises per 10,000 inhabitants in two size classes: small (10–19 employees) and large (250+ employees), based on 2023 Eurostat data. Countries on the left have the densest corporate sectors; those on the right the sparsest.

At the same time, the corporate sector is unusually export-oriented and closely integrated into euro-area supply chains. More than 65% of Czech exports go to the euro area, with Germany alone absorbing over 30% (CNB, 2025), and manufacturing accounts for around 90% of merchandise exports (UNCTAD, 2023). This creates a natural hedge for many firms, who often prefer to match euro revenues with euro liabilities. The koruna's relative stability against the euro in recent years, supported by CNB interventions and current-account surpluses, further reduces the perceived risks of foreign-currency borrowing (Figure A1).

Firm demography also matters. Czechia hosts relatively few small firms but a higher share of large enterprises compared with the EU median (Panel B, Figure 2). The result is a corporate sector that is relatively concentrated, moderately indebted, and reliant on bank credit. In such an environment, when large interest-rate differentials open between koruna and euro funding – as occurred in 2021–2022 (Figure 1) – banks and firms can adjust primarily along the currency margin rather than the volume margin.

These structural features explain why the CNB–ECB policy divergence triggered such a sharp substitution of koruna loans with euro loans. They also motivate our empirical strategy: in the following section, we test directly whether shifts in the koruna–euro rate spread lead banks to reallocate credit supply across currencies, thereby weakening the domestic bank-lending channel.

4. Methodology and Data

4.1 Theoretical motivation

Our empirical specification builds on the logic of the *bank-lending channel* in small open economies. When the domestic policy rate increases, the funding costs of local banks in domestic currency rise. In the absence of perfect substitution, this compresses the supply of domestic-currency credit (Bernanke and Blinder, 1988; Kashyap and Stein, 2000). However, if banks and firms have access to alternative funding in a foreign currency, such as the euro, the adjustment can take the form of a reallocation rather than a contraction: banks reduce koruna lending and expand euro lending whenever koruna funding becomes relatively more expensive.

This mechanism can be formalised in a simple framework. Consider a firm that can borrow in domestic currency (CZK) or in foreign currency (EUR). Its effective borrowing cost in currency $i \in \{\text{CZK}, \text{EUR}\}$ at time t is

$$r_{i,t} = R_{i,t} + m_{i,t}, \tag{1}$$

where $R_{i,t}$ is the relevant policy-related benchmark rate (PRIBOR or EURIBOR) and $m_{i,t}$ is a bank-specific markup reflecting funding costs, risk premia, and regulation.

The firm chooses the currency of its loan by minimising expected cost, adjusted for anticipated exchange-rate movements:

$$LoanShare_{EUR,t} = f\Big((r_{CZK,t} - r_{EUR,t}) - E_t[\Delta s_{t+1}]\Big), \tag{2}$$

where Δs_{t+1} denotes the expected depreciation of the koruna. If exchange-rate expectations are stable $\big(E_t[\Delta s_{t+1}] \approx 0\big)$, the relative interest-rate differential $(r_{CZK,t} - r_{EUR,t})$ becomes the dominant driver of currency choice (Luca and Petrova, 2008; Brown et al., 2011b).

From the bank's perspective, the supply of euro loans expands when the domestic policy rate rises relative to the euro-area rate, since koruna funding becomes more expensive (Kashyap and Stein, 2000). Aggregating across banks and firms, this yields the core prediction:

$$\Delta Loan_{EUR,t} - \Delta Loan_{CZK,t} = \beta \cdot Spread_t + \varepsilon_t, \tag{3}$$

where $Spread_t = R_{CZK,t} - R_{EUR,t}$. This stylised relationship directly motivates our empirical design.

The identification challenge is that demand and supply factors may jointly determine observed credit in each currency. Firms may prefer to borrow in euros when they expect koruna depreciation, or banks may prefer to lend in euros when domestic funding is expensive. To isolate the supply-side response, our regressions include industry–location–size fixed effects that absorb all time-varying demand conditions at the level of narrowly defined firm groups. These fixed effects net out any contemporaneous shifts in firms' currency preferences that are correlated with sectoral exposure, regional demand, or size-specific financing needs. Within these groups, we then compare the evolution of individual firms' euro- and koruna-denominated loans. Since the group-level demand conditions are held constant, any systematic difference in the relative growth of euro versus koruna loans in response to the policy-rate spread must originate on the lending (supply) side.

A widening CZK–EUR interest-rate differential provides a clear economic rationale for why such supply-side reallocation should arise. When domestic funding becomes more expensive relative to euro funding, banks' marginal cost of supplying koruna loans increases, whereas the cost of extending euro-denominated loans does not. Banks with access to cheap EUR liquidity—whether from parent institutions, wholesale markets, or internal treasury operations—can preserve net interest margins by shifting origination toward EUR credit. Balance-sheet currency-matching considerations and internal transfer-pricing rules further reinforce this incentive, as deploying available EUR liquidity in euro loans is often the least-cost option from a treasury perspective. Given the relatively low EUR/CZK volatility and the ability to hedge exchange-rate risk during the sample period, these pricing and balance-sheet motives naturally translate into supply-driven substitution toward euro lending when the policy-rate differential widens.

4.2 Empirical strategy

To bring this mechanism to the data, we estimate panel regressions using monthly bank–firm–currency level observations from July 2019 to June 2024. The baseline specification relates loan volumes to the lagged PRIBOR–EURIBOR spread and its interaction with an indicator for euro-denominated loans:

$$Y_{fbc,t} = [\beta_1 + \beta_2 D^{EUR}_{fbc,t}] \times IRdiff_{t-1} + \gamma' X_{b,t-1} + \alpha_b + \alpha_{ILS-q} + \varepsilon_{fbc,t}, \tag{4}$$

where $Y_{f,b,t}$ is the natural logarithm of the CZK value of the newly granted loan from bank b to firm f in currency c in month t.[1] As a robustness check, we also estimate the specification using outstanding loans. The main explanatory variable, $IRdiff_{t-1}$, is the lagged difference between the Czech 3-month PRIBOR and the Euro Area 3-month EURIBOR, reflecting the relative cost of domestic versus foreign-currency funding. [2] The dummy $D^{EUR}_{fbc,t}$ equals one if the loan is denominated in euros, and zero if it is denominated in koruna. While all amounts are reported in CZK, we retain the original currency flag to distinguish EUR and CZK credit.

[1] For euro-denominated loans, we convert the reported euro notional into CZK using the official CZK/EUR rate on the AnaCredit reference date (the last calendar day of each month). Thus, for EUR loans we observe $Y^{EUR}_{fbc,t} = \log(FX_t) + \log\big(\text{EUR notional}_{fbc,t}\big)$, where FX_t denotes the end-of-month CZK/EUR rate. Because FX_t acts as a common multiplicative factor for all EUR exposures within the same industry–location–size–quarter cell, the ILS–quarter fixed effects absorb the valuation component $\log(FX_t)$. The coefficient β_2 is therefore identified from cross-bank differences within ILS–quarters and is not mechanically driven by exchange-rate revaluation. Section 6.4 separately analyzes whether expected or realized movements in the CZK/EUR rate influence banks' currency choice in new lending beyond this purely mechanical channel.

[2] AnaCredit fields on fixed–floating status and fixation length are incomplete and contain substantial inconsistencies, making a reliable classification impossible. Moreover, the sample is dominated by floating-rate or short-reset loans for which short-term benchmarks are the relevant pricing reference. Using the 3M PRIBOR–EURIBOR spread therefore provides a consistent measure of the funding-cost differential across currencies.

The control vector $X_{b,t-1}$ includes a comprehensive set of bank-level characteristics, all lagged by one month to mitigate simultaneity, capturing banks' size, liquidity, profitability, credit risk, and funding structure (see Table A1). We further include bank fixed effects (α_b) to absorb time-invariant bank-specific unobserved heterogeneity, and industry–location–size–quarter fixed effects (α_{ILS-q}) to account for demand-side variation at the firm level.[3] Standard errors are clustered at the bank level. Summary statistics of all variables are reported in Table A3 in the Appendix.

The key coefficient of interest, β_2, measures the relative change in euro lending compared to koruna lending when the spread widens. In practice, this interaction term captures how banks reallocate the currency composition of their lending when koruna funding becomes more expensive relative to euros. By comparing the response of EUR- and CZK-denominated loans to movements in the policy-rate spread—while controlling for bank characteristics and rich fixed effects—we isolate the supply-side adjustment in cross-currency credit provision.

In addition to this intensive-margin analysis, we also examine the extensive margin by replacing $Y_{fbc,t}$ with binary indicators for new firm–bank relationships, following De Jonghe et al. (2020) and Behn et al. (2024). This allows us to test whether interest-rate differentials not only reallocate existing lending across currencies, but also shape the formation of new credit links. For this purpose, we estimate an extended version of equation (4) with triple interactions:

$$Y_{fbc,t} = [\beta_1 + \beta_2 D^{EUR}_{fbc,t} + \beta_3 D_k + \beta_4 (D^{EUR}_{fbc,t} \times D_k)] \times IRdiff_{t-1} + \gamma' X_{b,t-1} + \alpha_b + \alpha_{ILS-q} + \varepsilon_{fbc,t} \quad (5)$$

where D_k denotes a dummy for bank-level ($k = b$) or firm-level ($k = f$) characteristics, or time-varying macro factors ($k = t$). This specification allows us to test whether the effect of the interest-rate differential on euro lending is amplified or muted depending on banks' balance-sheet positions prior to the tightening cycle (e.g. size, liquidity, capital headroom), or on firm characteristics (e.g. size, leverage). In addition, we extend the baseline to incorporate exchange-rate movements, either as continuous variables or as pre-defined indicator dummies.

A key identification choice concerns fixed effects. We use industry–location–size–quarter fixed effects rather than the more common firm–time fixed effects introduced by Khwaja and Mian (2008) and applied in Ongena et al. (2021). The reason is that firm–time effects absorb all observations where a firm borrows from a single bank in a single currency in a given month – around 95% of our sample (see Figure 7). Following Degryse et al. (2019), Acharya et al. (2019), Berg et al. (2021), and Behn et al. (2024), we therefore prefer ILS-quarter effects [4], which retain these observations and allow us to identify bank-side variation, even if this comes at the cost of omitting time-varying firm-specific characteristics. We nonetheless conduct robustness checks with firm–time effects as well.

That said, our empirical design is intended to isolate supply-side variation by comparing lending outcomes across firms that operate in the same industry, location, and quarter. Firms within these narrowly defined cells are exposed to similar demand conditions, macroeconomic environments, and sectoral shocks. Any systematic differences in the currency composition of credit across banks within these cells can therefore be attributed to differences in banks' lending behavior rather than to shifts in firm-level demand.

[3] α_{ILS-q} are defined by firms' NACE 4-digit sector, postal code, and an enterprise size class (micro, small, medium, or large). For each firm, we used the last known observation on these characteristics.

[4] Using quarter instead of month keeps the cells larger and keeps more observations where multiple banks lend to similar firms.

4.3 Data

We construct a novel dataset by merging loan-level information from AnaCredit with borrower and lender characteristics, complemented by Czech and eurozone monetary policy indicators.

AnaCredit is a harmonised credit register covering all credit instruments granted by banks to firms, including detailed information on type, maturity, interest rate, collateral, and currency. Although established for the euro area, the Czech Republic participates voluntarily and reports all koruna loans without a threshold, ensuring full coverage.[5]

To obtain the usable dataset, we apply three main filters: *(i)* We retain only the main credit instruments (overdrafts, revolving loans, term loans, and other loans), which together account for the vast majority of lending. Other types of instruments (e.g., credit cards, account receivables or leasing) represent only a small share (Figure A2). *(ii)* We keep only banks with a history of lending in both CZK and EUR,[6] exclude specialized or foreign-branch institutions, and drop one late market entrant. This yields 23 banks, down from 46 originally, with negligible loss of loan volume.[7] *(iii)* We restrict the sample to credit instruments granted to Czech firms with non-zero outstanding amounts (including off-balance-sheet items).[8] We also exclude loans under government Covid-19 support programs, given the special conditions under which they were granted, following the practice in other studies (see, e.g., Herbst et al., 2025).

Having applied these filters, we collapse the data from instrument-level to the bank–firm–month level. A “loan” is defined as the sum of all credit instruments granted by a given bank to a given firm in a given month, including both on- and off-balance sheet amounts. This yields the *outstanding loans* dataset. To construct the *new loans* dataset, we aggregate only instruments that appear for the first time in AnaCredit, restricting inception to July 2019 or later to avoid backfilled entries. All amounts are converted to CZK but we retain the original currency flag, which allows us to build parallel datasets for CZK and EUR loans. We winsorize loan amounts at the 0.1% level on both tails and drop exposures below CZK 25,000 (about EUR 1,000) to mitigate outliers and data errors.[9]

We enrich the dataset with firm characteristics (sector, size, location, founding year) from the Register of Institutions and Affiliates Data (RIAD) and with monthly supervisory data (FINREP/COREP) on bank size, liquidity, profitability, and risk, used as lagged controls. Finally, we match these with policy rates (3M PRIBOR, 3M EURIBOR), their differential, and the CZK/EUR exchange rate. All variable definitions are described in Table A1 in the Appendix.

Our final sample covers 23 banks and 122,474 non-financial firms, with about 200,000 new-loan observations (Table 1). Most loans are in CZK (84% of new loans), but EUR loans are larger on average[10] and involve more than 7,900 firms, providing rich variation for analysis.

[5] AnaCredit reports cover all CZK loans without the EUR 25,000 threshold applied in euro area countries, at the level of individual instruments (e.g., a line of credit or a term loan), with reporting by domestic banks and relevant foreign branches. See CNB AnaCredit documentation for details.

[6] A similar filter is used in Ongena et al. (2021). We retain only banks with at least ten clients in either CZK or EUR lending to ensure the analysis captures substitution across currencies.

[7] This procedure removes half of the banks but only 1.7% of aggregate loan volume.

[8] We exclude foreign firms due to insufficient information on their characteristics and leverage.

[9] This cut-off removes about 40% of observations but less than 1% of loan volume. Results are robust to alternative thresholds.

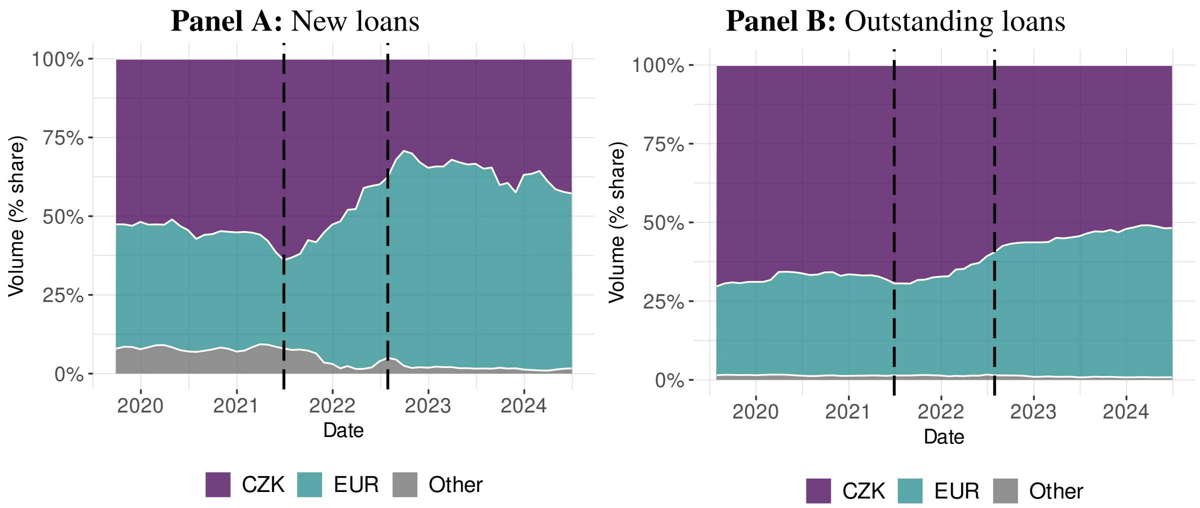
[10] Table A2 in the Appendix shows that the average size of a new CZK loan is roughly CZK 13 million, whereas the average size of a new EUR loan is about CZK 67 million (in CZK equivalents).

Table 1: Total Number of Banks, Firms and Loans (Observations)

Dataset:	New loans			Outstanding loans		
	Banks	Firms	Loans (Obs.)	Banks	Firms	Loans (Obs.)
Any currency loans	23	74,075	201,958	23	122,474	5,682,937
CZK loans	23	70,763	172,027	23	119,638	5,501,468
EUR loans	23	7,930	33,818	23	10,066	363,464

Note: The table reports basic summary statistics for our two sets of datasets–monthly bank-firm-level data on new loans and total outstanding loans. We define a "loan" at the level of a bank-firm pair; that is, for each month, we aggregate all credit instruments granted by a bank to a given firm. As a result, the overall number of loans in the datasets corresponds to the total number of observations. A credit instrument is classified as a "new loan" when it first appears in the AnaCredit database. We further restrict the inception date to July 2019 or later to filter out old loans that were recorded when AnaCredit was initially launched in the Czech Republic. The data cover the period from July 2019 to June 2024.

Figure 3: Volume Share on Total by Currency

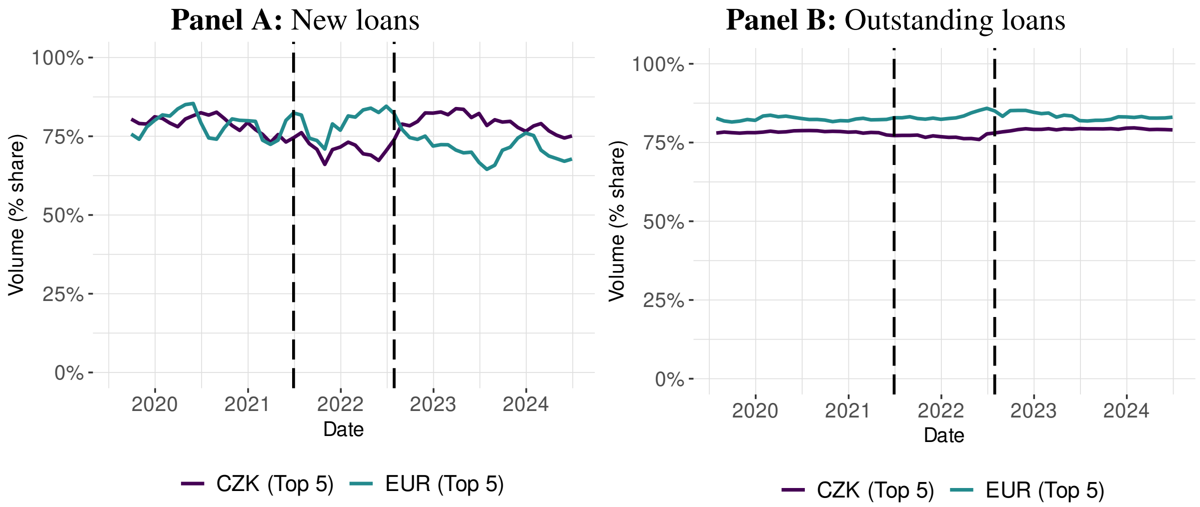


Note: Individual areas differentiate among the currencies in which the loans were originally denominated before converting them into CZK: Czech koruna, Euro and other currencies. Monthly shares of new loans are smoothed by its 3-month moving average. The underlying data have undergone the filtering process described in Section 4.3. Vertical lines indicate the start of CNB rate hikes (June 2021) and ECB rate hikes (July 2022), respectively.

On average, over 1,000 firms receive new CZK loans each month, while only about 130 firms obtain new EUR loans. Figure A3 in the Appendix illustrates the distribution of new loans across volume buckets: for CZK loans, the 1–10 million CZK range dominates, whereas for EUR loans, volumes above 10 million CZK are most prevalent.

Figures 3 and 4 highlight two key features of our dataset: the sharp increase in EUR lending after mid-2021 and the concentration of lending among the top five banks. For new loans, the EUR share nearly doubled, reaching almost 70% of all new lending, suggesting active substitution away from CZK borrowing as domestic rates increased. The concentration pattern is also striking: of the 23 banks in our sample, the top five account for roughly 75% of total lending volume, a share that has remained fairly stable over time.

Figure 4: Volume Shares of Top 5 Largest Banks: CZK and EUR Loans



Note: The figure shows the share of top 5 largest banks on total volume of CZK and EUR loans in our sample. The "largest" banks are identified based on average total assets prior June 2021 (the beginning of the MP rate hikes). The underlying data have undergone the filtering process described in Section 4.3. Panels A and B show the dynamics for the new loans (smoothed by its 3-month moving average) and outstanding loans, respectively. Vertical lines indicate the start of CNB rate hikes (June 2021) and ECB rate hikes (July 2022), respectively.

5. Results

We now turn to the empirical results. We begin by documenting our core finding: the PRIBOR–EURIBOR spread triggers a strong and immediate reallocation of new loans into euros. We then examine whether this response is symmetric when the spread widens versus narrows, test robustness to alternative specifications and controls, and finally explore heterogeneity across banks and firms. Together, these results reveal how persistent interest-rate differentials shape the currency composition of corporate credit and thereby weaken the domestic bank-lending channel.

5.1 Reallocation of New Lending Across Currencies

Our central result is straightforward: new loans respond strongly to relative rate changes. When the PRIBOR–EURIBOR spread widens, the volume of new euro-denominated lending rises sharply, while koruna lending shows little adjustment. In our baseline specification, a one percentage point widening of the spread raises new euro loans by about 8% relative to koruna loans (Table 2, column 2).

By contrast, when we pool all new loans regardless of currency (column 1), the effect of the spread is small and insignificant, suggesting that aggregate credit supply does not expand or contract, but that its currency composition shifts. The inclusion of bank-level controls and rich fixed effects ensures that these results are not driven by compositional changes across banks or over time.

In practice, the widening spread reallocates credit from koruna into euros. The estimates imply that the increase in euro loans comes at the expense of koruna loans, leaving total lending broadly unchanged. The insignificant coefficient on koruna loans reflects that most of the adjustment occurs on the euro side: banks do not actively contract koruna credit, but they stop expanding it and redirect new origination into euros. Since koruna loans represent a larger and more volatile segment, small absolute changes are not statistically distinguishable from zero. In the regression, koruna also serves as the reference category, so the reallocative effect is captured mainly by the positive and significant interaction term.

Results based on outstanding loan volumes, reported as a robustness check, point to the same qualitative pattern but are naturally more muted, consistent with the slower adjustment of existing portfolios. New origination can shift quickly across currencies, but outstanding balances adjust only gradually as old contracts mature and new euro loans accumulate.

Table 2: Baseline Regression

Dependent Variable:	log(New loans)		log(Outstanding loans)	
Model:	(1)	(2)	(3)	(4)
$IRdiff_{t-1}$	0.0201	-0.0073	-0.0031	-0.0072
	(0.0358)	(0.0373)	(0.0034)	(0.0042)
D_t^{EUR}		0.6032**		0.9321***
		(0.2453)		(0.0954)
$IRdiff_{t-1} \times D_t^{EUR}$		0.0822***		0.0581***
		(0.0263)		(0.0181)
Bank-level controls	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes
ILS-quarter FEs	Yes	Yes	Yes	Yes
Observations	182,054	185,441	5,318,051	5,457,251
R^2	0.84380	0.84190	0.66210	0.66765

Note: The table displays regression results for the model specified in equation 4, using monthly bank–firm level data from AnaCredit on loans granted by Czech banks to Czech non-financial corporations (NFCs). The term “loan” is defined at the bank–firm level; that is, for each month, we aggregate the outstanding amounts (including off-balance sheet items) of all credit instruments extended by a bank to a given firm. A credit instrument is classified as “new” when it appears for the first time in the AnaCredit database. To exclude backfilled historical entries, we further restrict the inception date to July 2019 or later. Models (1) and (3) use the total volume of new or outstanding loans, regardless of their original currency of denomination. Models (2) and (4) use loan volumes aggregated separately for instruments originally denominated in EUR and in CZK, and then row-bound together (see Section 4.3 for details on the aggregation procedure applied to instrument-level AnaCredit data). Standard errors, shown in parentheses, are clustered at the bank level. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

5.2 Asymmetry: Widening Versus Narrowing Spreads

A natural question is whether the reallocation of credit is symmetric when the interest-rate differential narrows. Our results show that it is not. The response is highly asymmetric: euro lending expands strongly when the PRIBOR–EURIBOR spread widens, but only a fraction of this shift is reversed when the spread subsequently narrows.

Table 3 reports regressions that interact the spread with an indicator for widening versus narrowing episodes. The coefficients confirm a clear pattern. During periods of widening spreads, euro flows increase substantially relative to koruna flows, with the interaction term implying about an 8% rise in new euro lending and a 5% rise in euro stocks for a one percentage point widening of the spread (columns (2) and (6)). During periods of narrowing spreads, however, the interaction effect is small and insignificant. Instead, the coefficient on the stand-alone differential turns significantly negative, around –7% (column (3)), indicating that koruna lending rises relative to euro lending as the cost gap closes. For outstanding loans, by contrast, the adjustment is negligible, consistent with the inertia documented above, suggesting that previously originated euro loans remain elevated even after the spread begins to narrow.

From a policy perspective, this asymmetry implies that even temporary or cyclical episodes of monetary tightening can have partially persistent effects on the currency composition of credit. Importantly, changes in the interest-rate differential during widening and narrowing episodes are comparable in magnitude, yet lending responses are markedly asymmetric: widening spreads induce a strong expansion of euro-denominated lending, while comparable narrowing leads only to a weaker and slower reallocation back toward koruna lending.

Since the PRIBOR–EURIBOR differential is positive for virtually the entire sample period, and more generally over long stretches of CZK-EUR monetary history, we do not expect the adjustment to hinge on the spread turning negative. Instead, our results indicate that when the differential narrows back toward its typical positive range, the response of lending remains markedly weaker than during comparable widening episodes, pointing to an asymmetric adjustment to changes in relative funding costs rather than to the level of the spread itself. As a consequence, euro lending remains elevated, reinforcing persistent euroisation and weakening domestic monetary transmission. While a full reversal toward koruna credit may still occur as the spread continues to narrow, our results cast doubt on whether such a reversal will be complete.

Table 3: Asymmetry: Widening vs. Narrowing Interest-Rate Differentials

	log(New loans)				log(Outstanding loans)			
Specification:	↑ IR diff.		↓ IR diff.		↑ IR diff.		↓ IR diff.	
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$IRdiff_{t-1}$	0.0975	0.0599	-0.065***	-0.074***	-0.0037	-0.0087	-0.0003	0.0008
	(0.0779)	(0.0722)	(0.0214)	(0.0215)	(0.0062)	(0.0070)	(0.0027)	(0.0022)
D_t^{EUR}		0.6129		0.6206**		0.7723***		1.056***
		(0.3670)		(0.2189)		(0.0900)		(0.0958)
$IRdiff_{t-1} \times D_t^{EUR}$		0.0843**		0.0683		0.0498**		0.0321
		(0.0316)		(0.0487)		(0.0195)		(0.0191)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ILS-quarter FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	84,291	85,835	97,763	99,606	2,448,354	2,499,824	2,869,697	2,957,427
R^2	0.85946	0.85655	0.84818	0.84653	0.66514	0.66729	0.66303	0.67032

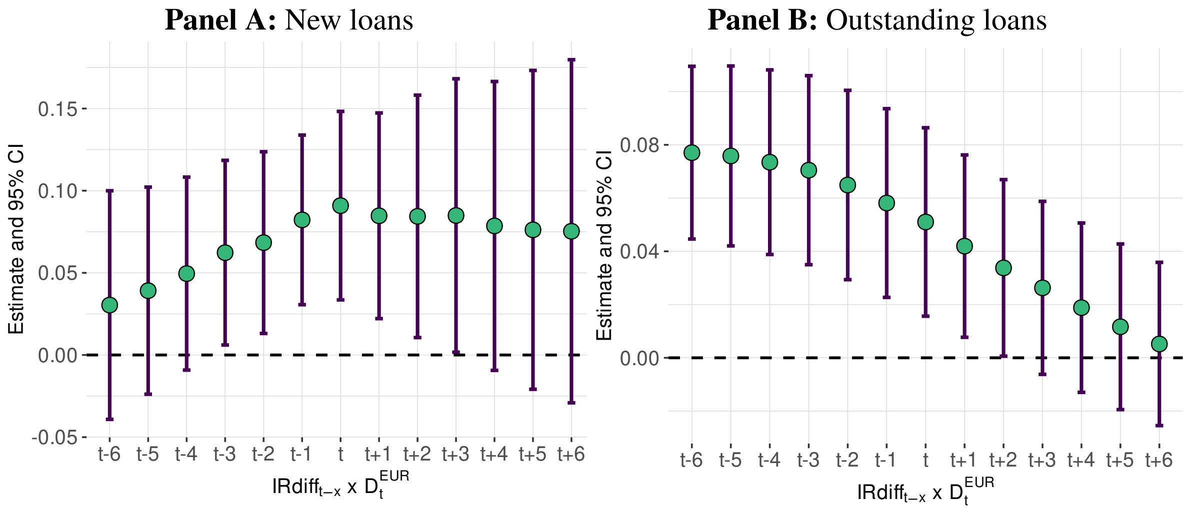
Note: The table reports regression results for subsamples where the PRIBOR–EURIBOR interest-rate differential was widening (models 13 and 14) or narrowing (models 15 and 16). Results are shown separately for new loans and outstanding loan stocks. Standard errors, reported in parentheses, are clustered at the bank level. Significance levels: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

5.3 Lead–Lag Structure of the Effect

We next examine the dynamic adjustment of new loans. Tables B1 and B2 in the Appendix estimate richer lead–lag structures, with the main results summarised in Figure 5.

For new loans (Panel A), the effect builds up as we approach the current period, peaks around t to $t+1$ at roughly 8–9%, and then fades within the next few quarters. This pattern indicates some short-run anticipation (positive, significant leads up to about one–two quarters) and short-lived persistence, with little evidence of effects at longer horizons.

Figure 5: Lead–Lag Structure of the Interest-Rate Differential Effect



Note: The figures plot estimated coefficients on $IRdiff_{t-1} \times D_t^{EUR}$ with 95% confidence intervals from Tables B1 and B2.

For outstanding loans (Panel B), the largest coefficients are associated with past differentials (several quarters before t), and they decline monotonically toward zero around the current period and into future leads, consistent with sluggish balance-sheet adjustment. These results reinforce our earlier conclusion that new loans provide the cleanest measure of how banks reallocate credit across currencies, while outstanding loan stocks only gradually absorb such shifts.

5.4 Extensive Margin

We also test whether interest-rate differentials affect the probability of initiation of new lending relationships, rather than just the volume of existing ones. Following De Jonghe et al. (2020) and Behn et al. (2024), we estimate eq. 4 with three dummy variables: (i) *New entrant* equals 1 when a firm obtains a new loan reporting none in the preceding quarter; (ii) *Additional bank* equals 1 when a firm already borrowing from at least one bank adds a new banking relationship; and (iii) *Any new link* combines the two.[11]

Across all three definitions, the direct effect of the lagged PRIBOR–EURIBOR spread is economically negligible. By contrast, the interaction with the euro dummy is consistently positive and highly significant. For firms with no prior borrowing, a one-percentage-point widening of the differential raises the probability that their first loan is in euros by about 0.8%. For firms adding an extra bank, the effect is smaller (0.08%), reflecting persistence of existing relationships. For the combined definition, the effect is again close to 0.84%.

Taken together, these results confirm that the intensive-margin reallocation documented above is mirrored at the extensive margin: when koruna funding becomes more expensive, even new bank–firm relationships are more likely to be formed in euros rather than in koruna.

[11] We estimate the extensive margin with linear probability model as we are only interested in the effect of the interaction between interest rate differential and dummy for EUR-denominated new relationships. Share of observations with the dummy *Any new link* equal to 1 is on average 2.2% for CZK-denominated loans and 7.24% for EUR-denominated loans.

Table 4: Extensive Margin

Dependent Variable:	New Entrant		Additional Bank		Any New Link	
Model:	(1)	(2)	(3)	(4)	(5)	(6)
$IRdiff_{t-1}$	0.0011	0.0010	0.0004*	0.0004*	0.0015*	0.0014
	(0.0007)	(0.0007)	(0.0002)	(0.0002)	(0.0008)	(0.0008)
D_t^{EUR}		-0.0070***		-0.0014***		-0.0084***
		(0.0013)		(0.0005)		(0.0014)
$IRdiff_{t-1} \times D_t^{EUR}$		0.0076***		0.0008***		0.0084***
		(0.0008)		(0.0001)		(0.0009)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes	Yes
ILS-quarter FEs	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,077,636	5,212,237	5,077,636	5,212,237	5,077,636	5,212,237
R^2	0.22423	0.21713	0.14001	0.13493	0.20593	0.20100

Note: See Note to Table 2. New entrant equals 1 when a firm obtains its very first loan; Additional bank equals 1 when a borrowing firm adds a new banking relationship; Any new link combines the two. Standard errors clustered at the bank level. Significance levels: ***: 0.01, **: 0.05, *: 0.1.

5.5 Robustness Checks

To test the robustness of our baseline estimates we re-estimate the Equation 4 under a broad set of alternative assumptions (Tables 5 and B3). Across most specifications the qualitative message is unchanged: a wider CZK–EUR policy-rate spread increases EUR lending relative to CZK lending.

Replacing industry–location–size–quarter fixed-effects with Khwaja and Mian (2008) firm-quarter fixed effects (columns 1–2) leaves the key interaction term, $IRdiff_{t-1} \times D_t^{EUR}$, positive though insignificant for new loans and positive and significant for outstanding loans (in the Appendix).[12] Even with the far tighter identification imposed by the Khwaja and Mian (2008) fixed effects such as in Ongena et al. (2021), the effect persists—at least for the stock of loans, indicating that the observed increase in EUR loans relative to CZK loans is unlikely to be an artefact of our baseline fixed-effects specification.

Restricting the sample to term and "other" loans, i.e., excluding credit instruments often used for short-term liquidity needs, such as overdrafts and credit lines (columns 3–4), or including loans issued under government Covid-19 support programs, which were excluded in the baseline (columns 7–8), leaves the main coefficients broadly unchanged. This suggests that the way we construct our dependent variable is fairly robust. Results for loans granted by the five largest banks (columns 5–6) also indicate that the baseline effect is driven primarily by the major players in the Czech lending market – a finding that is not surprising given the high concentration of the Czech banking sector, as illustrated in Figure 4.

Likewise, replacing the money-market interest rate differential (*IRdiff*) with the spread between the 3-month OIS curves for the Czech Republic and the Euro Area (columns 9–10) does not substantially alter the results. This OIS-based interest rate differential captures the difference in

[12] The lack of statistical significance likely reflects the very small number of usable observations once Khwaja and Mian (2008) fixed effects are introduced. These controls exploit only those firm-quarters in which a firm maintains relationships with more than one bank, cases and/or more than one currency loans that are in minority in the Czech data; see Figure 7.

Table 5: Robustness Results: New Loans

Dependent Variable:	log(New loans)					
Specification:	Alternative FEs		Term & Other loans		Top 5 Banks	
Model:	(1)	(2)	(3)	(4)	(5)	(6)
$IRdiff_{t-1}$	0.0305	-0.0017	0.0124	-0.0111	0.0281	0.0025
	(0.0304)	(0.0271)	(0.0232)	(0.0224)	(0.0479)	(0.0482)
D_t^{EUR}		0.0754		0.5723^{*}		0.6278
		(0.3267)		(0.2982)		(0.3040)
$IRdiff_{t-1} \times D_t^{EUR}$		0.0895		0.0683^{**}		0.0733^{*}
		(0.0657)		(0.0293)		(0.0343)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes	Yes
ILS-quarter FEs			Yes	Yes	Yes	Yes
Firm-quarter FEs	Yes	Yes				
Observations	182,054	185,441	123,375	125,829	159,339	162,725
R^2	0.97087	0.96189	0.86416	0.86018	0.85375	0.85156

Dependent Variable:	log(New loans)					
Specification:	OIS diff.		IV		/w Covid loans	
Model:	(7)	(8)	(9)	(10)	(11)	(12)
$OISdiff_{t-1}$	0.0429	0.0108				
	(0.0820)	(0.0795)				
$IRdiff_{t-1}$			0.9765	0.7850	0.0249	0.0005
			(0.6094)	(0.5636)	(0.0359)	(0.0369)
D_t^{EUR}		0.6412^{**}		-0.3466		0.6045^{**}
		(0.2328)		(0.4544)		(0.2398)
$OISdiff_{t-1} \times D_t^{EUR}$		0.0821^{***}				
		(0.0273)				
$IRdiff_{t-1} \times D_t^{EUR}$				0.3416^{**}		0.0752^{**}
				(0.1453)		(0.0313)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes	Yes
ILS-quarter FEs	Yes	Yes	Yes	Yes	Yes	Yes
Observations	174,095	177,314	156,510	159,441	188,866	192,384
R^2	0.84363	0.84185	0.83879	0.83698	0.84344	0.84151

Note: The table displays results of six robustness tests of our baseline regression results for **new loans** as specified in Table 2. In models (1) and (2) we use Firm-quarter FEs as proposed by Khwaja and Mian (2008) instead of ILS-quarter FEs. In models (3) and (4) we report results for the subsample of instruments, namely term loans and other loans. In model (5) and (6) we report results for the subsample of loans granted by top 5 largest banks based on their average total assets before June 2021, e.g. before MP rate hikes. In models (7) and (8) we replace interest rate differential by the difference between Euro area 3-month overnight indexed swap (OIS) rate and the corresponding OIS rate for the CNB monetary policy. Models (9) and (10) report 2nd-stage results of the 2SLS regressions where Jarociński and Karadi (2020) median shocks for the EA are used as instrumental variable (IV). Lastly, models (11) and (12) report results for the sample of loans including instruments under government Covid-19 support programmes. Standard errors, presented in parentheses, are clustered at the bank level. Significance levels: ***: 0.01, **: 0.05, *: 0.1.

market-based expectations of short-term policy rates between the two jurisdictions. We acknowledge, however, that the OIS market in Czechia is relatively shallow and not as well-developed as in the Euro Area, which may limit the precision and interpretability of this measure. Despite these limitations, the interaction term $OISdiff_{t-1} \times D_t^{EUR}$ yields coefficients closely aligned with the corresponding coefficients based on money-market rates (Table 2), suggesting that our baseline findings are robust to alternative measures of interest rate differentials.

As an additional robustness check, we estimate a two-stage least squares (2SLS) specification in which the interest rate differential *IRdiff* is instrumented using the high-frequency monetary policy surprises for the Euro Area developed by Jarociński and Karadi (2020) (cols. 11–12). Specifically, we use their median EA monetary policy shock as an external instrument for variation in *IRdiff*. The results of the second stage confirm our baseline findings as the interaction terms $IRdiff_{t-1} \times D_t^{EUR}$ remain positive and statistically significant, confirming that the baseline result is not driven by reverse causality or omitted variables.[13] This further supports our interpretation that increases in the Czech–EA interest rate differential lead banks to shift lending toward EUR-denominated credit.

6. Additional Evidence on the Currency Reallocation of New Loans

Having established the baseline results, we now turn to additional evidence based on newly originated loans. We first examine whether the response differs by loan maturity, and then explore heterogeneity across banks and firms. Finally, we assess whether exchange-rate developments affect the currency composition of new lending.

6.1 Maturity of loans

Table 6 repeats the baseline regression separately for new loans sorted by their contractual maturity at origination. A clear supply response to the interest-rate differential emerges only for loans with maturities between one and five years (column 2), which is also the modal category in our sample (see Figure A4 in Appendix). In this segment, the interaction term $IRdiff_{t-1} \times D_t^{EUR}$ is strongly positive and statistically significant, while the standalone $IRdiff_{t-1}$ coefficient is negative. This pattern indicates that banks actively reallocate their supply of new lending across currencies when relative funding conditions shift: they contract CZK lending and expand EUR lending when the PRIBOR–EURIBOR spread widens. The 1–5-year maturity range appears to be the primary margin through which banks adjust their currency composition, reflecting the fact that medium-term loans offer sufficient contractual flexibility and volume for banks to manage their foreign-currency exposure in response to movements in interest-rate differentials.

For the other two maturity buckets—loans with maturities below one year (column 1) and those exceeding five years (column 3)—the interaction term is statistically insignificant, indicating that banks do not adjust their supply of new lending in these segments in response to changes in the interest-rate differential. This pattern is consistent with institutional features of bank lending. Very short-term credit is dominated by working-capital lines and overdraft-type products, where pricing and currency are subject to frequent rollover and are tied to operational needs; banks typically treat

[13] A potential limitation of our IV strategy is that we instrument only the Euro Area component of the interest rate differential ($IRdiff$), while the Czech policy rate remains uninstrumented. Nevertheless, we argue that the high-frequency monetary policy surprises constructed by Jarociński and Karadi (2020) provide plausibly exogenous variation in the Euro Area rate that is orthogonal to developments in the Czech credit market. This satisfies relevance and exogeneity (due the Czech National Bank's independent monetary policy regime) requirement of the IV approach. The resulting 2SLS estimates should therefore be interpreted as the causal effect of cross-currency interest rate differentials driven by exogenous shifts in EA policy expectations.

these as relationship-driven liquidity instruments rather than vehicles for adjusting their foreign-currency exposure. Consequently, the scope for banks to reallocate supply across currencies in this segment is limited. Long-maturity loans, in contrast, tend to be large, infrequent, and negotiated as part of long-term investment projects. These contracts are often constrained by internal risk limits, funding-structure considerations, and predefined covenant packages, which reduce banks' ability to adjust the currency of new lending in response to short- or medium-run movements in the PRIBOR–EURIBOR spread.

Table 6: Maturity of New Loans

Dependent Variable:		log(New loans)	
Maturity:	$\leq$ 1Y	1Y–5Y	$>$ 5Y
Model:	(1)	(2)	(3)
$IRdiff_{t-1}$	-0.0004	-0.0747***	0.0482
	(0.0381)	(0.0196)	(0.0584)
D_t^{EUR}	0.4538*	0.2982	0.5884
	(0.2460)	(0.3580)	(0.4761)
$D_t^{EUR} \times IRdiff_{t-1}$	-0.0120	0.1322***	0.0975
	(0.0760)	(0.0452)	(0.0577)
Bank-level controls	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes
ILS-quarter FEs	Yes	Yes	Yes
Observations	46,369	72,240	59,358
R^2	0.93472	0.88641	0.88220

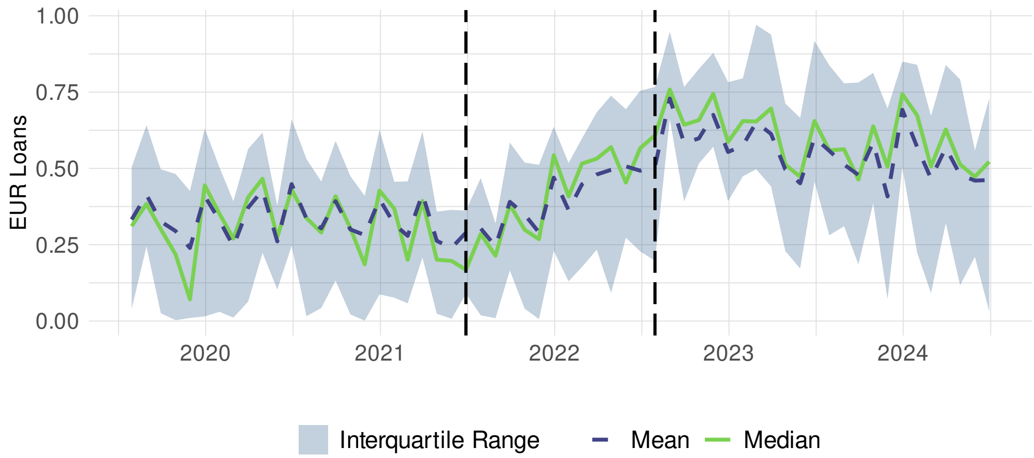
Note: The Table shows results for subsamples of new loans based on their maturity at origination. See also Note to Table 2. Standard errors, presented in parentheses, are clustered at the bank level. Significance levels: ***: 0.01, **: 0.05, *: 0.1.

6.2 Banks' Heterogeneity

To explore potential heterogeneity in the baseline effect across banks, we begin by examining the distribution of the share of newly originated loans denominated in euro, relative to the total volume of EUR and CZK loans, across banks over time. Figure 6 reveals substantial cross-bank dispersion in the use of euro-denominated lending, with the interquartile range typically spanning between 20 and 60 percent. While the median and mean remain relatively close throughout most of the sample—indicating a fairly symmetric distribution of EUR shares—this observed variation nonetheless motivates a more detailed analysis of bank-level heterogeneity in foreign currency lending behavior.

Table 7 investigates whether the effect of increased EUR lending (relative to CZK lending) documented in the baseline is uniform across the banking system or concentrated in particular institutions. For each bank we compute its average balance-sheet characteristic over the pre-tightening period (2019/07–2021/06) and split the sample accordingly; the baseline equation is then re-estimated on each subsample, with the log of monthly new lending (by currency) as the dependent variable and the interaction between the lagged policy-rate spread and the EUR-loan dummy indicator, $IRdiff_{t-1} \times D_t^{EUR}$, as the coefficient of interest.

Figure 6: Share of EUR Loans in Total (EUR + CZK) Loans by Bank



Note: The figure displays the interquartile range (shaded area), the median (solid line), and the mean (dashed line) of the bank-level share of EUR loans in total new lending (EUR + CZK). The underlying data have undergone the filtering process described in Section 4.3.

Table 7: Banks' Heterogeneity

Dependent Variable:	log(New loans)				
Specification:	Smaller Bank	Larger Bank	Capital Headroom ≤Q50	Capital Headroom >Q50	IRB Bank
Model:	(1)	(2)	(3)	(4)	(5)
$IRdiff_{t-1}$	-0.1540	0.0006	-0.0356	0.0162	0.0015
	(0.1154)	(0.0411)	(0.0296)	(0.0609)	(0.0433)
D_t^{EUR}	-0.0848	0.6258*	0.1166	0.8344***	0.6369**
	(0.5764)	(0.2928)	(0.0914)	(0.1613)	(0.2804)
$IRdiff_{t-1} \times D_t^{EUR}$	0.1682	0.0834**	0.0862**	0.0778	0.0754**
	(0.1705)	(0.0300)	(0.0265)	(0.0517)	(0.0290)
Bank-level controls	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes
ILS-quarter FEs	Yes	Yes	Yes	Yes	Yes
Observations	11,218	174,213	46,589	130,071	163,603
R^2	0.91178	0.84766	0.89652	0.85993	0.85297

Note: The table shows results for a subsample of new loans based on selected bank characteristics calculated using data from the period before the monetary policy rate hikes (2019/07–2021/06). Specifically, we calculated the average value of each characteristic for every bank prior to the rate hikes and used these values to define the heterogeneity groups. Models (1) and (2) divide banks into smaller and larger based on the median of total assets. Models (3) and (4) use the median capital surplus to risk-weighted assets as the cut-off point. Lastly, model (5) shows results for the subsample of banks using the Internal Ratings-Based (IRB) approach. See also the note to Table 2.

The results reveal marked heterogeneity. Large banks—those whose total assets exceed the median of the sector—display a strong, positive, and statistically significant interaction term (column 2).[14]

[14] Even when banks are split evenly by size, the larger-bank subsample still captures roughly 95% of all loan observations, because the large institutions originate far more loans than their smaller counterparts.

When the CZK–EUR policy-rate gap widens, these institutions expand euro-denominated lending. By contrast, the same coefficient is larger but statistically insignificant among smaller banks (column 1), suggesting that limited access to wholesale euro funding or a thinner EUR client base curtails their ability to re-price the currency mix of new credit.

A similar asymmetry emerges when banks are grouped by their average capital headroom (banks' capital surplus to risk-weighted assets) prior to monetary policy rate hikes. Among institutions with lower capital headroom (column 3) the interaction coefficient is again positive and significant, whereas it turns insignificant for banks with above-median surplus capital (column 4). An interpretation is that the cheaper wholesale funding attached to euro exposures makes currency substitution an attractive way for capital-constrained banks to preserve regulatory ratios when domestic rates rise.

Finally, the effect remains positive and significant for banks operating under the Internal Ratings-Based (IRB) approach (column 5)—a set that by 55% overlaps with the large banks set. Advanced internal-model approval tends to coincide with sophisticated treasury and hedging capabilities, which may in turn facilitate an active reshuffling of the currency composition of corporate loans.

The fact that euro lending expands relative to koruna lending particularly among large banks, banks with lower capital headroom, and IRB banks is consistent with banks actively adjusting the currency composition of credit supply in response to policy-rate differentials, rather than firms merely shifting demand across currencies. This heterogeneity points to a supply-side mechanism operating through banks' funding structures, regulatory constraints, and treasury capabilities.

Table B4 in Appendix augments the baseline specification with one bank characteristic at a time—*Size* (log of total assets), the liquid-asset ratio, return on assets (ROA), the non-performing-loan (NPL) ratio and the equity-to-asset ratio—and interacts that control with the core term $IRdiff_{t-1} \times D_t^{EUR}$. The remaining bank-level characteristics, bank fixed effects and ILS-quarter fixed effects remain in place, so identification comes from within-bank variation over time.

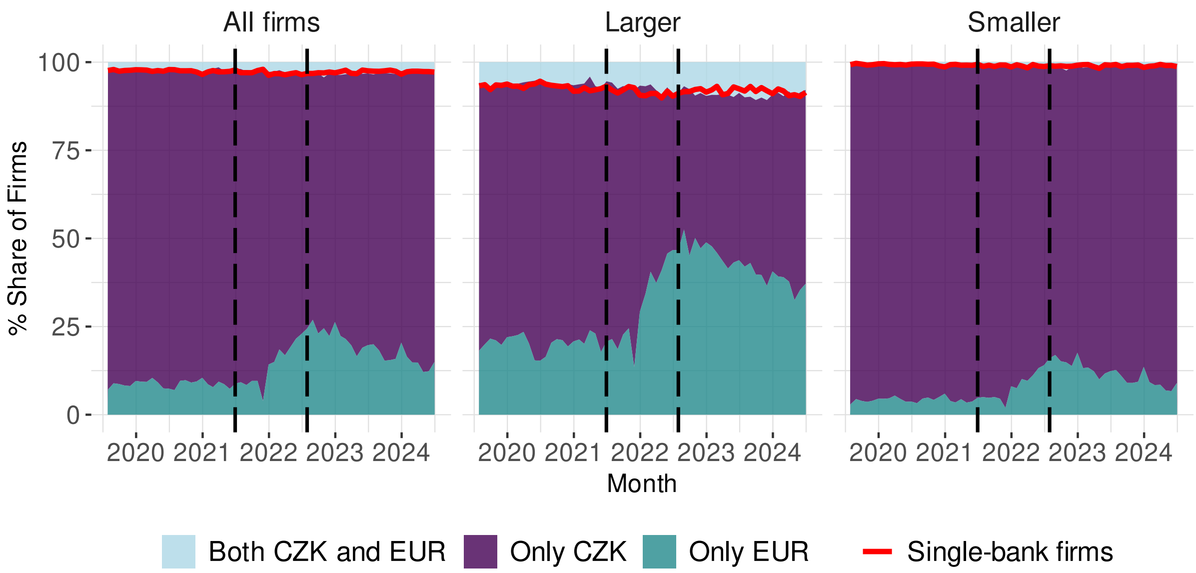
The triple interactions are generally small and insignificant, indicating that differences in liquidity, profitability, credit quality or absolute size do not systematically amplify or dampen the substitution response. The sole exception is the equity-to-asset ratio in column 5. Less leveraged banks display a slightly stronger reaction—the triple coefficient is positive and significant at the ten-percent level—suggesting that a comfortable leverage ratio may make it easier to exploit the arbitrage created by a wide policy-rate differential. Even so, the economic effect is modest, and the overall pattern of results confirms that the currency reallocation of corporate credit is a system-wide phenomenon rather than the preserve of any particular balance-sheet profile.

6.3 Firms' Heterogeneity

Figure 7 illustrates the currency composition of new loans across firms of different sizes over time. While the majority of firms—particularly smaller ones—tend to borrow exclusively in CZK, a significant share of larger firms engage in foreign currency borrowing, often combining CZK and EUR loans within the same month. This contrast became especially pronounced during the post-2021 tightening cycle, when the proportion of larger firms with EUR loans increased markedly compared to smaller firms. As we have already discussed, more than 95% of firms maintain a single-bank relationship, and the figure does not suggest any notable changes in this respect, even after the monetary policy rate hikes in mid-2021. This motivates us to also examine the length of such bank–firm relationships as a potential driver of heterogeneity in the baseline effect.

With this in mind, in this section we investigate whether and how firm-level characteristics may amplify or dampen the baseline effect—namely, the increased supply of EUR loans associated with a widening CZK–EUR interest rate differential. In addition to firm size and the length of the bank–firm relationship, we focus on firms' leverage and sectoral affiliation.[15]

Figure 7: Firms: Currency of their New Loans and Number of Bank Connections



Note: This figure shows the monthly share of firms by the original currency denomination of their new loans—categorized as loans only in CZK, only in EUR, or in both currencies. The left panel displays the share of all firms regardless of size, while the remaining two panels differentiate between larger (large and medium-sized) firms and smaller (small and micro) firms. The underlying data have undergone the filtering process described in Section 4.3. The red solid line depicts the share of firms in each month with a single-bank relationship. Vertical lines indicate the start of CNB rate hikes (June 2021) and ECB rate hikes (July 2022), respectively.

Table 8 presents the results of this exercise and examines whether the incentive to increase the supply of EUR lending relative to CZK lending—captured by the interaction between the lagged policy-rate spread and the EUR-loan indicator—varies across firm types. The benchmark coefficient, $IRdiff_{t-1} \times D_t^{EUR}$, is estimated in every specification, while the triple interaction $IRdiff_{t-1} \times D_t^{EUR} \times Df$ measures how that effect differs for the particular group of firms identified by the dummy D_f.

First, results in the first four columns indicate that when the PRIBOR–EURIBOR differential widens (domestic lending becomes more expensive compared to lending in EUR), banks supply significantly fewer EUR loans to smaller firms compared to other firm sizes (column 2). A plausible interpretation is that small firms face higher fixed costs when borrowing in euros (e.g.,

[15] We also examined other characteristics, such as firm age and the pre-hike financing structure (predominantly CZK or EUR), but as their effects on our baseline results were negligible, we omit them from the main text; these results are available upon request.

Table 8: The Role of Firms' Heterogeneity

Dependent Variable:	log(New loans)					
D_f Category:	Firm size				Relationship length	
D_f:	Micro	Small	Medium	Large	New client	Old client
Model:	(1)	(2)	(3)	(4)	(5)	(6)
$IRdiff_{t-1}$	-0.0082	-0.0314	-0.0248	-0.0304	-0.0005	-0.0198
	(0.0253)	(0.0383)	(0.0405)	(0.0385)	(0.0358)	(0.0388)
D_t^{EUR}	0.6658**	1.243***	1.311***	1.202***	0.5854**	0.7545***
	(0.2501)	(0.2763)	(0.2562)	(0.2183)	(0.2553)	(0.2473)
D_f	-1.525***	0.6029***	1.322***	1.837***	0.0785	-0.0565
	(0.2815)	(0.0967)	(0.2221)	(0.4845)	(0.2153)	(0.1890)
$IRdiff_{t-1} \times D_t^{EUR}$	0.0583**	0.1026***	0.0926**	0.0827**	0.0741**	0.0838**
	(0.0242)	(0.0313)	(0.0381)	(0.0302)	(0.0265)	(0.0372)
$IRdiff_{t-1} \times D_f$	-0.0198	0.0258	0.0135	0.0703	-0.0696*	0.0529***
	(0.0210)	(0.0151)	(0.0338)	(0.0493)	(0.0358)	(0.0096)
$D_t^{EUR} \times D_f$	1.114***	-0.6782***	-0.8459***	-0.9825***	0.7603*	-0.4843**
	(0.3122)	(0.1953)	(0.1650)	(0.3361)	(0.3881)	(0.1958)
$IRdiff_{t-1} \times D_t^{EUR} \times D_f$	0.0260	-0.0440*	-0.0513	0.0051	0.0806	-0.0198
	(0.0228)	(0.0246)	(0.0524)	(0.0464)	(0.0767)	(0.0419)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes	Yes
IL-quarter FEs	Yes	Yes	Yes	Yes		
ILS-quarter FEs					Yes	Yes
Observations	185,438	185,438	185,438	185,438	185,441	185,441
R^2	0.76386	0.73275	0.74083	0.74187	0.84238	0.84249

D_f Category:	Firm's leverage				Sector orientation	
D_f:	$< Q10$	$< Q50$	$> Q75$	$> Q90$	Export	Services
Model:	(7)	(8)	(9)	(10)	(11)	(12)
$IRdiff_{t-1}$	-0.0071	0.0022	-0.0086	-0.0055	-0.0122	-0.0116
	(0.0395)	(0.0264)	(0.0278)	(0.0222)	(0.0240)	(0.0131)
D_t^{EUR}	0.5803**	0.4862**	0.1720	0.2887	1.464***	0.8817***
	(0.2426)	(0.1956)	(0.2805)	(0.2156)	(0.3735)	(0.1898)
D_f	-2.457***	-1.816***	1.939***	2.415***	0.1048**	-0.0309
	(0.1947)	(0.0575)	(0.0691)	(0.4062)	(0.0395)	(0.0418)
$IRdiff_{t-1} \times D_t^{EUR}$	0.0828***	0.0660*	0.1067***	0.0828***	0.0505	0.0543***
	(0.0259)	(0.0372)	(0.0333)	(0.0156)	(0.0467)	(0.0138)
$IRdiff_{t-1} \times D_f$	-0.0698	-0.0127	0.0133	0.0204	-0.0037	-0.0091
	(0.0575)	(0.0202)	(0.0183)	(0.0304)	(0.0163)	(0.0199)
$D_t^{EUR} \times D_f$	-4.733***	-0.5872**	0.2685	0.0879	-0.6035**	0.6502**
	(1.473)	(0.2491)	(0.2456)	(0.2257)	(0.2428)	(0.2497)
$IRdiff_{t-1} \times D_t^{EUR} \times D_f$	0.6062*	0.1123*	-0.0499	-0.0330	0.0068	0.0052
	(0.3273)	(0.0602)	(0.0590)	(0.0626)	(0.0436)	(0.0461)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes	Yes
ILS-quarter	Yes	Yes	Yes	Yes		
LS-quarter FEs					Yes	Yes
Observations	185,441	185,441	185,441	185,441	184,309	184,309
R^2	0.84461	0.87422	0.87644	0.86930	0.61615	0.61635

Note: The table reports results of the firms' heterogeneity analysis. Each model (column) uses a different firm-level dummy D_f interacted with $IRdiff_{t-1} \times D_t^{EUR}$. Models (1)–(4) distinguish between micro, small, medium, and large firms; models (5)–(6) use dummies equal to 1 for firm–bank relationships younger than 1 month or older than 10 years, respectively; models (7)–(10) classify firms by leverage scaled by its size category. All dummies are defined at the firm–bank level and are time-invariant. Models (11)–(12) refer to export-oriented and services sectors, respectively. See Note to Table 2. Standard errors (in parentheses) are clustered at the bank level. Significance levels: *** 0.01, ** 0.05, * 0.1.

documentation, hedging, or disclosure requirements) and may not have sufficient collateral in EUR required by banks, at least, compared to larger firms.

Second, whether a borrower is a brand-new client (column 5) or a longstanding partner of more than ten years (column 6) makes no meaningful difference: the triple interactions are insignificant, and the baseline coefficient of the double interaction $IRdiff_{t-1} \times D_t^{EUR}$ remains positive. The effect of the increased supply of EUR-denominated loans therefore appears to hinge on the interest-rate gap rather than on the depth of the bank–firm relationship. Similarly, firms' sector—whether export-oriented or services-oriented (columns 11 and 12)—also seems to play no role.[16] One might have anticipated a stronger response among exporters—whose revenues are already in foreign currency—and a muted response in services, where cash flows are largely domestic. The absence of such a contrast could suggest that exporters were already heavily financed in euros and could rely on natural hedges, leaving little additional scope for currency adjustment when the policy-rate gap widened.

Finally, heterogeneity is clearest along the leverage dimension, proxied by firms' maximum loan amounts relative to their size category.[17] For firms in the bottom leverage decile, and to a lesser extent those below the median (columns 7 and 8), the coefficient on the triple interaction is positive and significant, indicating that a 1-percentage-point increase in *IR diff.* increases the responsiveness of EUR-loan supply by approximately 60% and 11%, respectively, compared to firms with higher leverage. In other words, banks supply relatively more EUR credit to low-leverage firms as the interest-rate differential widens. This behavior aligns with banks' efforts to mitigate credit risk and maintain profitability, as low-leverage firms may have more headroom to incur exchange-rate risk or satisfy collateral and other requirements associated with euro borrowing.

6.4 The Role of Exchange Rate

An obvious candidate for moderating the currency choice of new credit supply is the koruna–euro exchange rate. If banks fear that a future depreciation will inflate the real burden of foreign-currency debt, one should observe weaker substitution into euro lending precisely when the koruna is under downward pressure or when the forward market embeds a depreciation premium. In this section, we therefore examine whether such economic exchange-rate considerations affect banks' currency allocation beyond the purely mechanical valuation effect created by converting EUR exposures into CZK, which is fully absorbed by the fixed effects in our empirical specification.

Cross-country firm-level evidence shows that when the home currency depreciates, firms with FX debt and local-currency assets see the domestic value of their FX liabilities jump, eroding net worth, tightening borrowing constraints, and forcing de-leveraging; conversely, appreciations lower the value of FX liabilities and relax constraints (Kalemli-Ozcan et al., 2021). Developed-economy experience is consistent: in Austria, low CHF/EUR volatility and favorable rate differentials encouraged CHF household borrowing, with the 2015 CHF surge revealing the

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[16] We define *Export sectors* based on Eurostat data on exports in individual industries. Industries with a share of total exports above 1% are selected: A (Agriculture), C (Manufacturing), D (Electricity), and G (Wholesale and Retail). We then define *Services sectors* following Eurostat's methodology: H (Transportation), I (Accommodation), J (Information), L (Real estate), M (Professional and scientific activities), and N (Administrative and support). See also Table B5 in the Appendix for results for individual sectors.

[17] For example, $D_f < Q50$ equals 1 if the maximum loan amount granted to firm f by bank b is below the median maximum loan amount in its size category. We also estimated this specification using maximum loan amounts scaled by firms' balance-sheet data from RIAD, and the results were qualitatively and quantitatively similar, even though we lost almost 20% of observations due to missing RIAD data for some firms.

attendant balance-sheet risks (Beer et al., 2010; Albacete et al., 2015). Mechanically, exchange-rate movements reprice FX liabilities and collateral, so depreciations tighten constraints and curb credit (Choi and Cook, 2004); micro evidence finds lenders pull back from FX lending and delinquencies rise after depreciations (Hardy, 2023; Niepmann and Schmidt-Eisenlohr, 2022). In CESEE, widespread FX lending and banks' FX deposit–asset matching amplify these supply responses (Brown and De Haas, 2012; Luca and Petrova, 2008).

Table 9 augments the baseline specification with three alternative proxies for exchange-rate risk: *(i)* a dummy that equals 1 in months when the spot EUR/CZK depreciates ($D^{\text{depreciation}}$); *(ii)* the monthly percentage change in the spot rate $\Delta\log(\text{EUR/CZK})$; and *(iii)* the three-month forward premium, computed as the log difference between the forward and spot rates, together with a dummy that flags periods in which the premium is positive.

None of the proxies alters the core result. In columns (1), (2), and (4), the triple interaction combining the interest-rate differential, the euro dummy, and the respective exchange-rate measure is always statistically insignificant and economically negligible. The double interaction between the current policy-rate gap and the euro dummy remains highly significant, with a point estimate of about eight basis points per percentage point of differential—nearly identical to the baseline. Even in column (4), where the forward-premium dummy enters with the expected negative sign in euro periods, the additional term is far from significant and leaves the interest-rate channel unaffected. In columns (3) and (5), we also experimented with two separate double interactions with the EUR dummy—one with the interest-rate differential (baseline) and another with either the monthly change in the exchange rate or the forward premium—to examine banks' motives to hedge their EUR exposures separately. Even in these cases, we found no statistically significant effects.

These findings suggest that, during the 2019-2024 sample, exchange-rate considerations were second-order for the currency allocation of bank credit. Two institutional features help to rationalise the result. First, the koruna traded in an unusually narrow range – buoyed by CNB FX interventions and a structural current-account surplus – so realised volatility was too small to threaten debt-servicing capacity. Second, Czech exporters book more than two-thirds of their revenues in euro; for such firms, euro income provides a natural hedge and largely neutralises valuation concerns. In practice, therefore, the exchange rate did not materially amplify or dampen the incentive to arbitrage the wide CZK–EUR interest-rate differential.

Table 9: The Missing Role of Exchange Rate

Dependent Variable:	New loans				
Model:	(1)	(2)	(3)	(4)	(5)
$IRdiff_{t-1}$	-0.0043	0.0185	0.0159	0.0064	0.0256
	(0.0350)	(0.0443)	(0.0432)	(0.0595)	(0.0777)
D_t^{EUR}	0.5667**	0.6015**	0.6046**	0.5140**	0.6080**
	(0.2188)	(0.2450)	(0.2462)	(0.2031)	(0.2506)
$IRdiff_{t-1} \times D_t^{EUR}$	0.0842**	0.0828***	0.0818***	0.1262***	0.0769***
	(0.0310)	(0.0260)	(0.0262)	(0.0330)	(0.0266)
$D(depreciation)_{t-1}$	-0.1371				
	(0.1566)				
$IRdiff_{t-1} \times D(depreciation)_{t-1}$	-0.0015				
	(0.0287)				
$D_t^{EUR} \times D(depreciation)_{t-1}$	0.0668				
	(0.1361)				
$IRdiff_{t-1} \times D_t^{EUR} \times D(depreciation)_{t-1}$	0.0025				
	(0.0257)				
Δlog(EUR/CZK)$_{t-1}$		-0.0399	-0.0256		
		(0.0262)	(0.0162)		
$IRdiff_{t-1} \times \Delta$log(EUR/CZK)$_{t-1}$		0.0051			
		(0.0043)			
$D_t^{EUR} \times \Delta$log(EUR/CZK)$_{t-1}$		-0.0148	0.0049		
		(0.0175)	(0.0190)		
$IRdiff_{t-1} \times D_t^{EUR} \times \Delta$log(EUR/CZK)$_{t-1}$		0.0060			
		(0.0046)			
$D(ForwardPremium > 0)_{t-1}$				-0.0711	
				(0.0536)	
$IRdiff_{t-1} \times D(ForwardPremium > 0)_{t-1}$				0.0098	
				(0.0148)	
$D_t^{EUR} \times D(ForwardPremium > 0)_{t-1}$				0.1245	
				(0.0752)	
$IRdiff_{t-1} \times D_t^{EUR} \times D(Forw.Prem. > 0)_{t-1}$				-0.0528	
				(0.0307)	
$ForwardPremium_{t-1}$					-0.0239
					(0.0354)
$D_t^{EUR} \times ForwardPremium_{t-1}$					0.0172
					(0.0330)
Bank-level controls	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes
ILS-quarter FEs	Yes	Yes	Yes	Yes	Yes
Observations	185,441	185,441	185,441	185,441	185,441
R^2	0.84213	0.84198	0.84196	0.84194	0.84192

Note: See Note to Table 2. $D(depreciation)$ is a dummy variable equal to one in periods of CZK depreciation and 0 otherwise. Δlog(EUR/CZK) is (log) monthly change of EUR/CZK exchange rate (when it is positive, CZK depreciates). $ForwardPremium$ is the forward premium calculated as a difference between log 3-month forward rate (EUR/CZK) and the log EUR/CZK spot exchange rate. $D(ForwardPremium > 0)_{t-1}$ is a dummy equal to one in periods when $ForwardPremium$ is positive, e.g. in periods when the CZK is expected to depreciate. Standard errors, presented in parentheses, are clustered at the bank level. Significance levels: ***: 0.01, **: 0.05, *: 0.1.

7. Conclusion

This paper has examined how relative monetary policy conditions shape the currency composition of bank lending in Czechia. Using granular loan-level data from AnaCredit, we show that when koruna funding becomes more expensive relative to the euro, banks shift new lending toward euro-denominated loans. The response is particularly pronounced among large, less-capitalised banks and in lending to larger, lower-leverage firms, while exchange-rate movements appear to play only a limited role.

The findings carry two main policy messages. First, domestic monetary tightening can quickly dilute the bank-lending channel by shifting marginal credit activity into foreign currency. This weakens the pass-through from policy rates to domestic lending conditions and reduces the effectiveness of monetary policy. Second, even temporary episodes of monetary divergence may have persistent effects because the response of lending is asymmetric: for changes in the interest-rate differential of comparable magnitude, euro lending expands strongly when the spread widens but contracts only weakly and gradually when it narrows, leaving euro loan stocks elevated thereafter. While foreign-currency lending may eventually return toward pre-tightening levels, our results indicate that such a reversal is neither immediate nor assured. During this adjustment phase, foreign-currency exposures on corporate balance sheets may remain higher, potentially increasing sensitivity to exchange-rate risk when hedging is incomplete and pointing to an element of structural euroisation.

From a broader perspective, our results highlight the challenges facing small open economies outside the euro area. With PRIBOR typically above EURIBOR in recent decades, cross-currency spreads are likely to re-emerge in the future. This suggests that foreign-currency lending is not merely a temporary by-product of exceptional monetary conditions but a recurring feature of credit markets.

Finally, our study contributes to the international literature by showing how domestic banks reallocate credit across currencies in response to policy-rate differentials, even in the absence of direct cross-border lending. This mechanism illustrates how financial integration can erode the potency of national monetary policy in partially euroised economies.

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Appendix A: Additional Information on Data

Table A1: Variable Definitions

Variable	Definition	Source
Dependent variables		
log(Outstanding loans)	Natural logarithm of outstanding *loan* granted to firm f by bank b in month t. Loan is defined in the context of the bank-firm pair, that is, for each month, we aggregate the outstanding amounts (including off-balance sheet amounts) of selected credit instruments from one bank to a firm. Four types of credit instruments are considered: 02 – Overdraft, 04 – Revolving loans, 05 – Term loans, and 19 – Other loans.	AnaCredit
log(New loans)	We indicate the outstanding *loan* to be the "*new loan*", when it firstly appears in the AnaCredit database, while we also limit the inception date ($\geq$ July 2019) to filter out the old loans recorded to AnaCredit when it first launched in the Czech Republic.	AnaCredit
Main explanatory variables		
IRdiff	Difference between the 3-month PRIBOR and 3-month EURIBOR rates (in %).	CNB, ECB
D^{EUR}	Dummy variable equal to one if the loan was originally denominated in EUR, and zero if it was denominated in CZK.	AnaCredit
Bank characteristics		
Size	Natural logarithm of banks' total assets.	CNB
Liq.assets/Assets	Liquid assets to total assets of a bank in %. Liquid assets include cash and cash balances at central banks and other demand deposits as well as financial assets for trading.	CNB
ROA	Annualized returns to total assets in %.	CNB
NPL/Loans	Volume of non-performing loans to total loans in %.	CNB
Equity/Assets	Bank's equity to total assets in %.	CNB

Table A2: Quick Overview of the Loan Data

	CZK loans				EUR loan			
Dataset	Aggregate volume (monthly)	Average size	Average no. of firms	No. of loans (monthly)	Aggregate volume (monthly)	Average size	Average no. of firms	No. of loans (monthly)
New loans	36,074	13	2,698	2,752	42,228	76	509	555
Outstanding loans	770,323	9	81,991	90,332	494,516	82	5,216	6,032

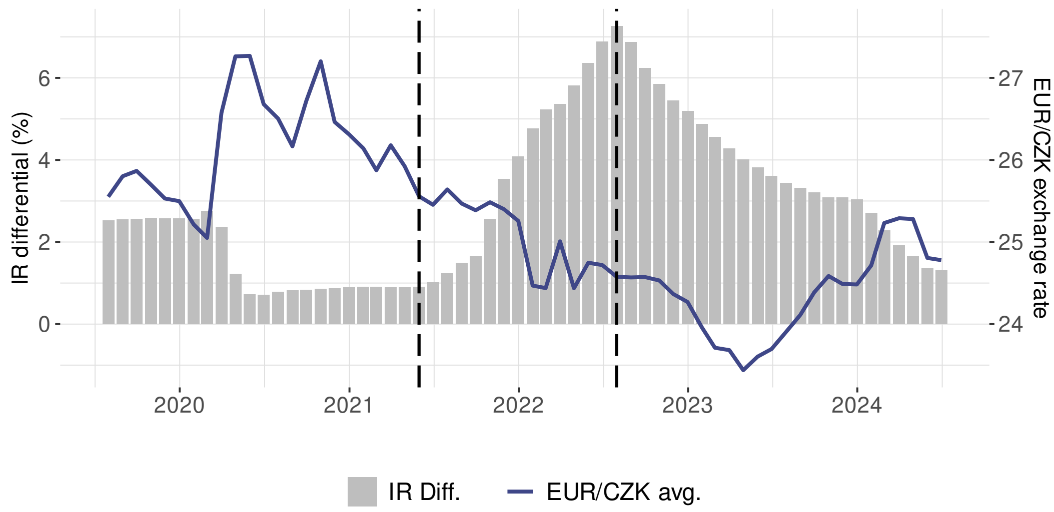
Note: The table displays monthly averages for new loans and outstanding loans, for loans granted in CZK or EUR. The loan amount is consistently denominated in CZK to facilitate comparison, regardless of the loan's original currency. Both aggregate volume and average size are presented in millions of CZK. The underlying data have undergone the filtering process described in Section 4.3.

Table A3: Detailed Summary Statistics

	CZK loans						EUR loans					
	Mean	SD.	Q25	Q50	Q75	Obs.	Mean	SD.	Q25	Q50	Q75	Obs.
Panel A: Loans												
New loans	13.11	52.02	0.50	1.54	5.50	165,095	76.04	232.13	4.95	16.48	57.89	33,321
log(New loans)	14.36	1.94	13.12	14.25	15.52	165,095	16.59	1.88	15.41	16.62	17.87	33,321
log(New loans, MAT <1Y)	14.29	2.38	12.90	14.22	15.83	37,451	16.66	2.08	15.41	16.86	18.10	11,131
log(New loans, MAT 1Y to 5Y)	14.23	1.80	13.02	14	15.20	67,014	16.46	1.95	15.19	16.40	17.69	10,142
log(New loans, MAT >5Y)	14.87	1.78	13.59	14.83	16.12	52,124	16.54	1.80	15.54	16.56	17.71	11,862
Outstanding loans	8.53	40.35	0.24	0.86	3.70	5,419,926	81.98	210.53	5.88	18.73	61.81	361,917
log(Outstanding loans)	13.80	1.97	12.39	13.66	15.12	5,419,926	16.75	1.82	15.59	16.75	17.94	361,917
Panel B: Firm-level dummy variables (D_f)												
D(Micro firm)	0.67	0.47	0	1	1	79,941	0.24	0.42	0	0	0	8,998
D(Small firm)	0.20	0.40	0	0	0	79,941	0.32	0.47	0	0	1	8,998
D(Medium firm)	0.08	0.28	0	0	0	79,941	0.30	0.46	0	0	1	8,998
D(Large firm)	0.03	0.17	0	0	0	79,941	0.14	0.35	0	0	0	8,998
D(New client)	0.19	0.40	0	0	0	79,941	0.11	0.31	0	0	0	8,998
D(Old client)	0.17	0.37	0	0	0	79,941	0.22	0.41	0	0	0	8,998
D(Leverage <Q10)	0.03	0.16	0	0	0	79,941	0.01	0.08	0	0	0	8,998
D(Leverage <Q50)	0.48	0.50	0	0	1	79,941	0.29	0.46	0	0	1	8,998
D(Leverage >Q75)	0.23	0.42	0	0	0	79,941	0.46	0.50	0	0	1	8,998
D(Leverage >Q90)	0.08	0.27	0	0	0	79,941	0.26	0.44	0	0	1	8,998
Export-oriented	0.43	0.50	0	0	1	79,198	0.65	0.48	0	1	1	8,965
Services-oriented	0.36	0.48	0	0	1	79,198	0.29	0.46	0	0	1	8,965
Panel C: Bank-level characteristics and bank-level dummy variables (D_b)												
Size	25.49	1.60	24.41	25.26	26.61	1,310	25.49	1.60	24.41	25.26	26.61	1,310
Liq. assets/Assets	7.80	6.73	3.44	5.49	9.26	1,288	7.80	6.73	3.44	5.49	9.26	1,288
ROA	0.85	1.57	0.30	0.80	1.34	1,310	0.85	1.57	0.30	0.80	1.34	1,310
NPL/Loans	1.87	1.82	0.89	1.29	2.37	985	1.87	1.82	0.89	1.29	2.37	985
Equity/Assets	7.29	4.98	2.82	7.39	10.78	1,310	7.29	4.98	2.82	7.39	10.78	1,310
D(Smaller bank)	0.50	0.50	0	0	1	1,311	0.50	0.50	0	0	1	1,311
D(Larger bank)	0.50	0.50	0	1	1	1,311	0.50	0.50	0	1	1	1,311
D(Cap.Headroom<=Q50)	0.44	0.50	0	0	1	719	0.44	0.50	0	0	1	719
D(Cap.Headroom>Q50)	0.56	0.50	0	1	1	719	0.56	0.50	0	1	1	719
D(IRB bank)	0.43	0.50	0	0	1	1,380	0.43	0.50	0	0	1	1,380
Panel D: Monetary policy variables and exchange rate variables												
IR diff.	2.98	1.86	1.23	2.58	4.13	60	2.98	1.86	1.23	2.58	4.13	60
OIS diff.	2.63	1.84	0.95	2.33	3.77	57	2.63	1.84	0.95	2.33	3.77	57
UP IR diff.	0.47	0.50	0	0	1	60	0.47	0.50	0	0	1	60
DOWN IR diff.	0.53	0.50	0	1	1	60	0.53	0.50	0	1	1	60
D(depreciation)	0.37	0.49	0	0	1	60	0.37	0.49	0	0	1	60
Δlog(EUR/CZK)	-0.05	1.40	-0.66	-0.15	0.71	60	-0.05	1.40	-0.66	-0.15	0.71	60
Forward premium	0.67	0.99	-0.02	0.54	1.28	60	0.67	0.99	-0.02	0.54	1.28	60
D(Forw.premium >0)	0.72	0.45	0	1	1	60	0.72	0.45	0	1	1	60

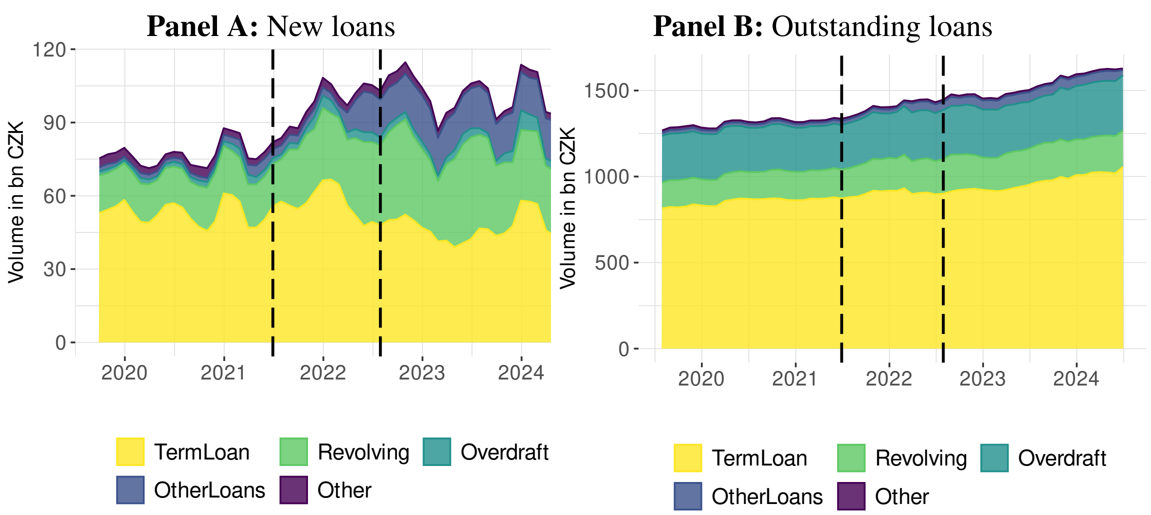
Source: AnaCredit, RIAD, CNB (COREP, FINREP).
Note: Monthly data are divided into two subsamples based on the original currency of denomination—Czech crowns (CZK) and euros (EUR). Summary statistics for the variables reported in Panels C and D are identical across the CZK and EUR subsamples. This is because our sample includes only banks with a history of lending in both CZK and EUR (Panel C; see also Section 4.3), and the macroeconomic variables are common to both subsamples (Panel D). The underlying data have undergone the filtering process described in Section 4.3. The sample covers July 2019 to June 2024.

Figure A1: IR Differential and Exchange Rate (EUR/CZK)



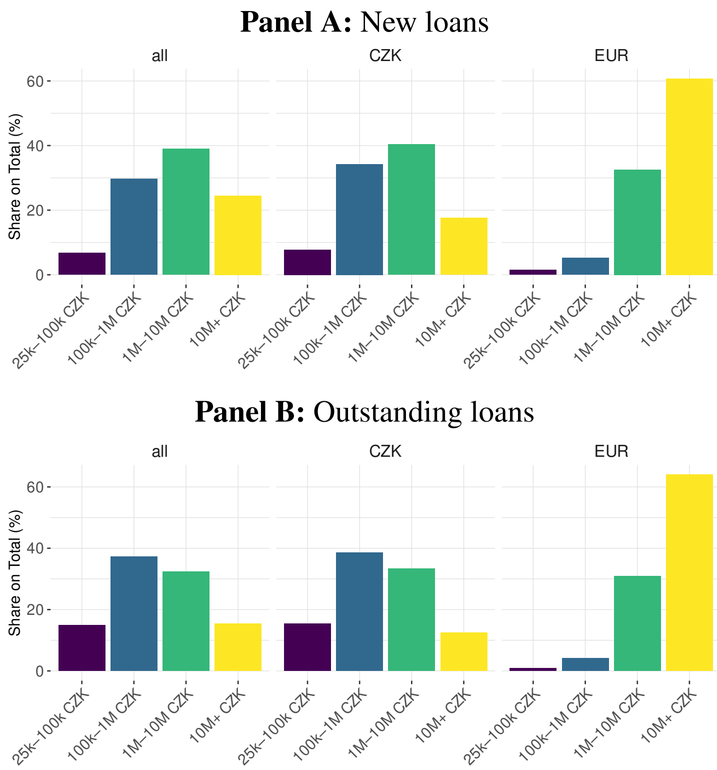
Note: The Table shows evolution of the difference between the Czech 3-month PRIBOR and the Euro Area 3-month EURIBOR (IR Diff.) and average EUR/CZK exchange rate.

Figure A2: Total Volume per Instrument Type



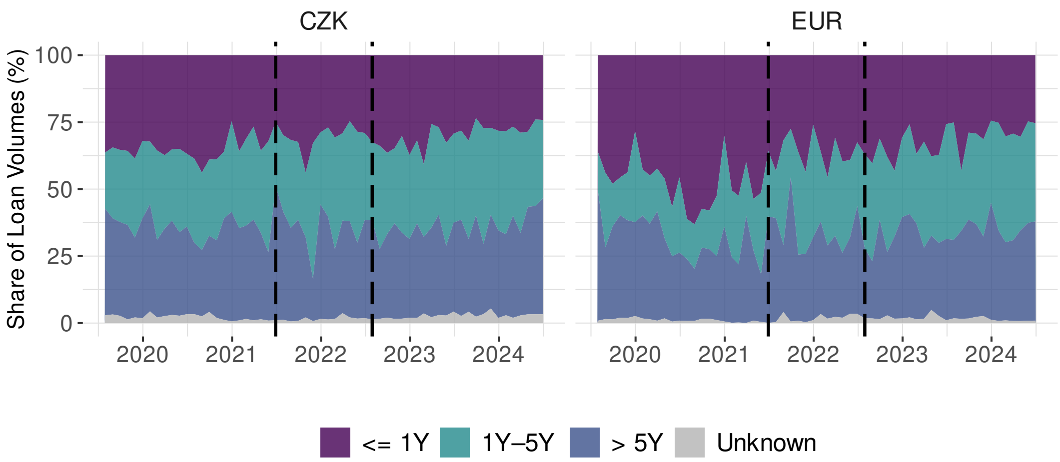
Note: Individual areas differentiate among the types of instruments. Loans in all currencies are included, all converted to CZK. Loan volumes are not winsoprized nor filtered anyhow, e.g. loans under government Covid-19 support programes are included. Monthly volumes of new loans are smoothed by its 3-month moving average. *Other* instrument type consists of credit cards, account receivables and leasing. Vertical lines indicate the start of CNB rate hikes (June 2021) and ECB rate hikes (July 2022), respectively.

Figure A3: Volume Distribution by Currency



Note: The figure shows the number of new loans (Panel A) and outstanding loans (Panel B) by loan volume buckets and the original currency of denomination. The data have undergone the filtering process described in Section 4.3. The vertical axis represents each bucket's share on the total number of loans within the respective currency group. Data of observations is from July 2019 to June 2024.

Figure A4: Maturity of New Loans



Note: The figure depicts the monthly evolution of the loan portfolio maturity structure, split by original currency of denomination (CZK and EUR). The underlying data have undergone the filtering process described in Section 4.3. The shares are calculated as the proportion of new loan volumes in each maturity bucket (≤1 year, 1–5 years, 5–10 years, >10 years, and unknown) relative to the total volume of new loans. Vertical lines indicate the start of CNB rate hikes (June 2021) and ECB rate hikes (July 2022), respectively.

Appendix B: Additional Results

Table B1: IR diff. Lag/Lead Structure: New Loans

Dependent Variable:	log(New loans)						
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$IRdiff_{t-x}$:	t - 6	t - 5	t - 4	t - 3	t - 2	t - 1	t
$IRdiff_{t-x}$	-0.0585	-0.0287	-0.0260	-0.0815***	0.0106	-0.0073	-0.0565*
	(0.0394)	(0.0168)	(0.0195)	(0.0253)	(0.0795)	(0.0373)	(0.0300)
D_t^{EUR}	0.7793**	0.7487**	0.7129**	0.6702**	0.6491**	0.6032**	0.5759**
	(0.3113)	(0.2967)	(0.2825)	(0.2693)	(0.2662)	(0.2453)	(0.2394)
$D_t^{EUR} \times IRdiff_{t-x}$	0.0304	0.0391	0.0495	0.0623**	0.0684**	0.0822***	0.0909***
	(0.0355)	(0.0322)	(0.0300)	(0.0287)	(0.0282)	(0.0263)	(0.0293)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ILS-quarter FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	185,441	185,441	185,441	185,441	185,441	185,441	185,441
R^2	0.84176	0.84176	0.84179	0.84184	0.84185	0.84190	0.84194

Dependent Variable:	log(New loans)					
Model:	(8)	(9)	(10)	(11)	(12)	(13)
$IRdiff_{t-x}$:	t + 1	t + 2	t + 3	t + 4	t + 5	t + 6
$IRdiff_{t+x}$	-0.0401	-0.0597	-0.0920	-0.0295	-0.0281*	-0.0093
	(0.0471)	(0.0383)	(0.0564)	(0.0209)	(0.0143)	(0.0127)
D_t^{EUR}	0.5991**	0.6036**	0.6064**	0.6321**	0.6443**	0.6513**
	(0.2482)	(0.2495)	(0.2521)	(0.2635)	(0.2713)	(0.2794)
$D_t^{EUR} \times IRdiff_{t+x}$	0.0847**	0.0844**	0.0849*	0.0786*	0.0762	0.0753
	(0.0319)	(0.0376)	(0.0425)	(0.0449)	(0.0495)	(0.0533)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes	Yes
ILS-quarter FEs	Yes	Yes	Yes	Yes	Yes	Yes
Observations	185,441	185,441	185,441	185,441	185,441	185,441
R^2	0.84192	0.84194	0.84196	0.84190	0.84189	0.84189

Note: See Note to Table 2. Standard errors, presented in parentheses, are clustered at the bank level. Significance levels: ***: 0.01, **: 0.05, *: 0.1.

Table B2: IR diff. Lag/Lead Structure: Outstanding Loans

Dependent Variable:	log(Outstanding loans)						
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$IRdiff_{t-x}$:	t - 6	t - 5	t - 4	t - 3	t - 2	t - 1	t
$IRdiff_{t-x}$	-0.0048	-0.0058***	-0.0059***	-0.0080***	-0.0081**	-0.0072	-0.0064
	(0.0033)	(0.0017)	(0.0017)	(0.0028)	(0.0033)	(0.0042)	(0.0055)
D_t^{EUR}	0.8556***	0.8611***	0.8713***	0.8845***	0.9063***	0.9321***	0.9581***
	(0.0904)	(0.0915)	(0.0926)	(0.0937)	(0.0945)	(0.0954)	(0.0965)
$D_t^{EUR} \times IRdiff_{t-x}$	0.0770***	0.0758***	0.0735***	0.0705***	0.0649***	0.0581***	0.0510***
	(0.0165)	(0.0172)	(0.0177)	(0.0181)	(0.0181)	(0.0181)	(0.0181)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ILS-quarter FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,457,251	5,457,251	5,457,251	5,457,251	5,457,251	5,457,251	5,457,251
R^2	0.66771	0.66770	0.66769	0.66768	0.66767	0.66765	0.66763

Dependent Variable:	log(Outstanding loans)					
Model:	(8)	(9)	(10)	(11)	(12)	(13)
$IRdiff_{t-x}$:	t + 1	t + 2	t + 3	t + 4	t + 5	t + 6
$IRdiff_{t+x}$	-0.0039	-0.0033	-0.0028	-0.0023	-0.0017	-0.0007
	(0.0034)	(0.0030)	(0.0030)	(0.0023)	(0.0025)	(0.0034)
D_t^{EUR}	0.9893***	1.017***	1.041***	1.063***	1.084***	1.102***
	(0.0972)	(0.0981)	(0.0991)	(0.1001)	(0.1011)	(0.1022)
$D_t^{EUR} \times IRdiff_{t+x}$	0.0420**	0.0338*	0.0263	0.0188	0.0117	0.0052
	(0.0175)	(0.0169)	(0.0166)	(0.0162)	(0.0159)	(0.0156)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes	Yes
ILS-quarter FEs	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,457,251	5,457,251	5,457,251	5,457,251	5,457,251	5,457,251
R^2	0.66761	0.66760	0.66759	0.66758	0.66758	0.66757

Note: See Note to Table 2. Standard errors, presented in parentheses, are clustered at the bank level. Significance levels: ***: 0.01, **: 0.05, *: 0.1.

Table B3: Robustness Results: Outstanding Loans

Dependent Variable:	log(Outstanding loans)					
Specification:	Alternative FEs		Term & Other loans		Top 5 Banks	
Model:	(1)	(2)	(3)	(4)	(5)	(6)
$IRdiff_{t-1}$	-0.0061*	-0.0092**	-0.0028*	-0.006***	-0.0046	-0.0079
	(0.0031)	(0.0033)	(0.0016)	(0.0019)	(0.0034)	(0.0048)
D_t^{EUR}		0.0761		1.184***		0.9847***
		(0.0666)		(0.0902)		(0.1053)
$IRdiff_{t-1} \times D_t^{EUR}$		0.0501***		0.0227**		0.0471
		(0.0108)		(0.0099)		(0.0248)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes	Yes
ILS-quarter FEs			Yes	Yes	Yes	Yes
Firm-quarter FEs	Yes	Yes				
Observations	5,318,051	5,457,251	3,158,675	3,235,858	4,603,408	4,723,323
R^2	0.96211	0.95278	0.68644	0.69425	0.67192	0.67812

Dependent Variable:	log(Outstanding loans)					
Specification:	OIS diff.		IV		/w Covid loans	
Model:	(7)	(8)	(9)	(10)	(11)	(12)
$OISdiff_{t-1}$	-0.0026	-0.0058				
	(0.0038)	(0.0048)				
$IRdiff_{t-1}$			-0.0037	-0.041***	-0.0021	-0.0054
			(0.0042)	(0.0067)	(0.0035)	(0.0044)
D_t^{EUR}		1.007***		-1.039***		0.9076***
		(0.0937)		(0.3375)		(0.0889)
$OISdiff_{t-1} \times D_t^{EUR}$		0.0457**				
		(0.0169)				
$IRdiff_{t-1} \times D_t^{EUR}$				0.6206***		0.0478**
				(0.1188)		(0.0191)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes	Yes
ILS-quarter FEs	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,077,636	5,212,237	4,554,031	4,662,794	5,390,057	5,536,705
R^2	0.66169	0.66756	0.66316	0.66704	0.66212	0.66714

Note: The table displays results of six robustness tests of our baseline regression results for **outstanding loans** as specified in Table 2. In models (1) and (2) we use Firm-quarter FEs as proposed by Khwaja and Mian (2008) instead of ILS-quarter FEs. In models (3) and (4) we report results for the subsample of instruments, namely term loans and other loans. In model (5) and (6) we report results for the subsample of loans granted by top 5 largest banks based on their average total assets before June 2021, e.g. before MP rate hikes. In models (7) and (8) we replace interest rate differential by the difference between Euro area 3-month overnight indexed swap (OIS) rate and the corresponding OIS rate for the CNB monetary policy. Models (9) and (10) report 2nd-stage results of the 2SLS regressions where Jarociński and Karadi (2020) median shocks for the EA are used as instrumental variable (IV). Lastly, models (11) and (12) report results for the sample of loans including instruments under government Covid-19 support programmes. Standard errors, presented in parentheses, are clustered at the bank level. Significance levels: ***: 0.01, **: 0.05, *: 0.1.

Table B4: Interactions With Bank Controls

Dependent Variable:	log(New loans)				
Model:	(1)	(2)	(3)	(4)	(5)
$IRdiff_{t-1}$	0.0331	-0.0060	0.0021	0.0111	0.0704
	(0.4180)	(0.0430)	(0.0376)	(0.0476)	(0.0649)
D_t^{EUR}	-5.387	0.4840	0.5949*	0.8991***	1.286**
	(3.360)	(0.3437)	(0.3237)	(0.2786)	(0.5097)
$IRdiff_{t-1} \times D_t^{EUR}$	0.3948	0.1075**	0.0802**	0.0432	-0.1167
	(0.6916)	(0.0393)	(0.0318)	(0.0804)	(0.1108)
$Size_{t-1}$	-0.0380	-0.0148	-0.0168	-0.0142	-0.0117
	(0.0732)	(0.0492)	(0.0474)	(0.0497)	(0.0454)
$Liq.assets/Assets_{t-1}$	0.0102	0.0097	0.0098	0.0095	0.0089
	(0.0101)	(0.0181)	(0.0099)	(0.0100)	(0.0101)
ROA_{t-1}	0.0038	0.0036	0.0309	0.0046	0.0044
	(0.0212)	(0.0215)	(0.0457)	(0.0214)	(0.0210)
$NPL/Loans_{t-1}$	0.0401	0.0483	0.0478	0.0998	0.0428
	(0.0853)	(0.0757)	(0.0771)	(0.0912)	(0.0769)
$Equity/Assets_{t-1}$	0.0222	0.0218	0.0221	0.0226	0.0451*
	(0.0177)	(0.0159)	(0.0164)	(0.0167)	(0.0249)
$IRdiff_{t-1} \times Size_{t-1}$	-0.0014				
	(0.0153)				
$D_t^{EUR} \times Size_{t-1}$	0.2193*				
	(0.1198)				
$IRdiff_{t-1} \times D_t^{EUR} \times Size_{t-1}$	-0.0118				
	(0.0252)				
$IRdiff_{t-1} \times Liq.assets/Assets_{t-1}$		-0.0003			
		(0.0030)			
$D_t^{EUR} \times Liq.assets/Assets_{t-1}$		0.0243			
		(0.0387)			
$IRdiff_{t-1} \times D_t^{EUR} \times Liq.assets/Assets_{t-1}$		-0.0050			
		(0.0078)			
$IRdiff_{t-1} \times ROA_{t-1}$			-0.0088		
			(0.0089)		
$D_t^{EUR} \times ROA_{t-1}$			0.0129		
			(0.1355)		
$IRdiff_{t-1} \times D_t^{EUR} \times ROA_{t-1}$			0.0009		
			(0.0295)		
$IRdiff_{t-1} \times NPL/Loans_{t-1}$				-0.0150	
				(0.0262)	
$D_t^{EUR} \times NPL/Loans_{t-1}$				-0.2455	
				(0.1771)	
$IRdiff_{t-1} \times D_t^{EUR} \times NPL/Loans_{t-1}$				0.0304	
				(0.0608)	
$IRdiff_{t-1} \times Equity/Assets_{t-1}$					-0.0078
					(0.0050)
$D_t^{EUR} \times Equity/Assets_{t-1}$					-0.0700
					(0.0511)
$IRdiff_{t-1} \times D_t^{EUR} \times Equity/Assets_{t-1}$					0.0207*
					(0.0112)
Bank FEs	Yes	Yes	Yes	Yes	Yes
ILS-quarter FEs	Yes	Yes	Yes	Yes	Yes
Observations	185,441	185,441	185,441	185,441	185,441
R^2	0.84217	0.84192	0.84191	0.84198	0.84198

Note: See Note to Table 2. In each model we interact the double interaction $IRdiff_{t-1} \times D_t^{EUR}$ with one of the five bank controls used in our baseline analysis. Standard errors, presented in parentheses, are clustered at the bank level. Significance levels: ***: 0.01, **: 0.05, *: 0.1.

Table B5: Breakdown by Firms' Sector

Dependent Variable:	log(New loans)				
Model:	(1)	(2)	(3)	(4)	(5)
D_f (Sector):	A Agric.	C Manuf.	D Energy	F Constr.	G Trade
$IRdiff_{t-1}$	-0.0147	-0.0101	-0.0152	-0.0180	-0.0164
	(0.0193)	(0.0197)	(0.0196)	(0.0196)	(0.0205)
D_t^{EUR}	1.057***	1.209***	1.057***	1.053***	1.070***
	(0.2249)	(0.2824)	(0.2255)	(0.2268)	(0.2361)
D_f	-0.0898	0.0819*	1.197***	-0.0108	0.0638
	(0.0857)	(0.0447)	(0.1535)	(0.0394)	(0.0441)
$IRdiff_{t-1} \times D_t^{EUR}$	0.0603***	0.0566*	0.0574***	0.0633***	0.0660***
	(0.0204)	(0.0317)	(0.0203)	(0.0214)	(0.0231)
$IRdiff_{t-1} \times D_f$	0.0015	-0.0218*	0.0154	0.0253***	0.0087
	(0.0139)	(0.0111)	(0.0442)	(0.0069)	(0.0125)
$D_t^{EUR} \times D_f$	-0.2190	-0.4447**	-0.8258	-0.4011	-0.0783
	(0.1318)	(0.2040)	(0.5930)	(0.3949)	(0.0666)
$IRdiff_{t-1} \times D_t^{EUR} \times D_f$	0.0050	-0.0003	0.1314	0.0300	-0.0187
	(0.0160)	(0.0340)	(0.1316)	(0.0683)	(0.0159)
Bank-level controls	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes
ILS-quarter FEs	Yes	Yes	Yes	Yes	Yes
Observations	184,034	184,034	184,034	184,034	184,034
R^2	0.61441	0.61520	0.61556	0.61444	0.61453
Model:	(6)	(7)	(8)	(9)	(10)
D_f (Sector):	H Transp.	I Servic.	L Devel.	M Proff.	Other
$IRdiff_{t-1}$	-0.0129	-0.0120	-0.0171	-0.0162	-0.0129
	(0.0187)	(0.0180)	(0.0129)	(0.0177)	(0.0186)
D_t^{EUR}	1.082***	1.025***	0.9043***	1.021***	1.040***
	(0.2088)	(0.2256)	(0.2063)	(0.2227)	(0.2233)
D_f	-0.2947**	-0.6032***	0.9961***	-0.3342***	-0.3036***
	(0.1221)	(0.0793)	(0.1257)	(0.0652)	(0.0716)
$IRdiff_{t-1} \times D_t^{EUR}$	0.0570***	0.0607***	0.0653***	0.0590***	0.0586***
	(0.0186)	(0.0207)	(0.0153)	(0.0192)	(0.0202)
$IRdiff_{t-1} \times D_f$	-0.0243	-0.0081	-0.0129	0.0131	-0.0090
	(0.0266)	(0.0078)	(0.0332)	(0.0154)	(0.0093)
$D_t^{EUR} \times D_f$	-1.003***	1.126*	0.4841	0.4161*	-0.1285
	(0.2116)	(0.6275)	(0.3137)	(0.2156)	(0.2651)
$IRdiff_{t-1} \times D_t^{EUR} \times D_f$	0.1006*	-0.1023	-0.0354	0.0299	0.0392
	(0.0526)	(0.1253)	(0.0476)	(0.0507)	(0.0538)
Bank-level controls	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes
ILS-quarter FEs	Yes	Yes	Yes	Yes	Yes
Observations	184,034	184,034	184,034	184,034	184,034
R^2	0.61576	0.61680	0.62699	0.61542	0.61582

Note: See Note to Table 2. A Agric. – – A Agriculture, Forestry, and Fishing; C Manuf. – C Manufacturing; D Energy – D Water Supply, Sewerage, Waste Management; F Constr. – F Construction; G Trade – G Wholesale and Retail Trade; Repair of Vehicles; H Transp. – H Transportation and Storage; I Servic. – I Accommodation and Food Service; L Devel. – L Real Estate; M Proff. – Professional, Scientific, Technical; Other – all other sectors not included in the first nine models.
Standard errors, presented in parentheses, are clustered at the bank level. Significance levels: ***: 0.01, **: 0.05, *: 0.1.

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