BANKA SLOVENIJE

EVROSISTEM

Pricing Risk or Rationing Credit? Bank Behavior in a Tightening Monetary Cycle

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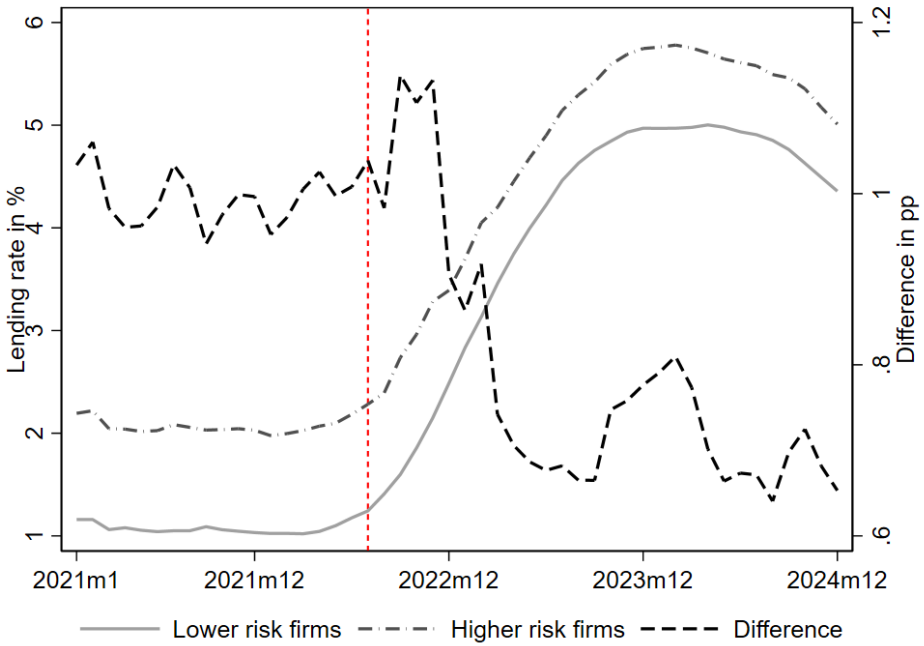
Motivation

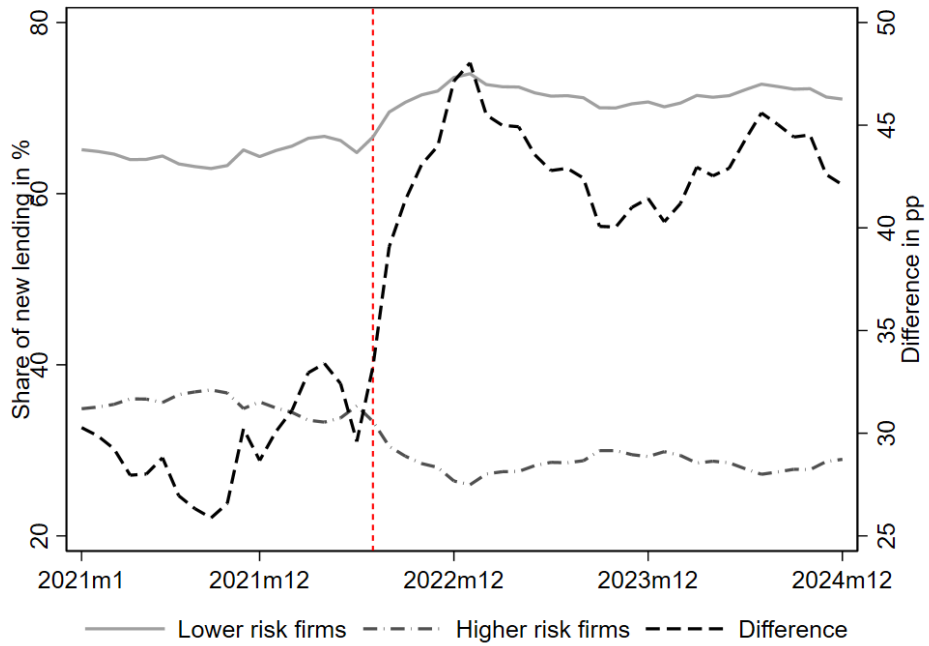
- **Risk-based pricing and credit allocation** ensure **bank solvency** and **efficient allocation of credit**
- It underpins the **bank lending channel of monetary policy**
  - Tighter policy $\rightarrow$ higher borrowing costs $\rightarrow$ reduced credit, especially for risky firms
- Supports **financial stability** and **growth** by channeling funds to productive borrowers
- **Mispricing risks:** credit misallocation, higher future losses, inefficiencies
- This paper: ECB tightening (mid-2022) — how euro-area banks **priced** and **allocated** new firm loans across **risk profiles**.

Evolution of lending rates and amounts

(a) **Lending rates**



(b) **Lending amounts**



Source: AnaCredit, own calculations.

Methodology

$$Y_{ibft} = \beta PD_{bft} + X_{ibft}^{Loan} + X_{mt}^{Market} + \delta_{bt} + \sigma_{ILST} + \epsilon_{ibft}$$

- **Dependent variable (Y_{ibft})** $\Rightarrow$ Lending spread or credit amount
- **Loan-specific controls (X_{ibft}^{Loan})**
  - LTV, maturity, fixed vs. variable rate loan
- **Firm-level controls (σ_{ILST} fixed effects)**
  - Absorb heterogeneity in firm characteristics & credit demand
- **Bank-level controls (δ_{bt} fixed effects)**
  - Capture shifts in financial conditions, funding, regulation
- **Market-level controls (X_{mt}^{Market})**
  - Log number of active banks in region (NUTS-3)
- **Macroeconomic conditions**
  - Indirectly captured via δ_{bt} and σ_{ILST}
- **Data on new lending reported in AnaCredit in 2021 - 2024**

Impact of firm default probability on **lending spreads**: Baseline and heterogeneity

Interaction variable:	Baseline	Competition	Bank size	Capitalization	PD
PD	0.091	0.096	0.055	0.080	0.256
	[0.000]	*[0.000]*	*[0.000]*	*[0.000]*	*[0.000]*
PD × I(Variable)		-0.012	0.070	0.068	-0.185
		[0.031]	*[0.000]*	*[0.021]*	*[0.000]*
I(Var.)		0.000			0.002
		[0.060]			*[0.000]*
Number of obs.		9.6m	7.1m	8.9m	9.6m
R-square		0.697	0.656	0.720	0.697

Note: Square brackets contain p-values.
Source: AnaCredit, own estimates.

Impact of firm default probability on **lending amounts**: Baseline and heterogeneity

Interaction variable:	Baseline	Competition	Bank size	Capitalization	PD
PD	-3.657	-3.400	-1.752	-3.701	-7.339
	[0.000]	*[0.000]*	*[0.031]*	*[0.000]*	*[0.215]*
PD × I(Variable)		-0.568	-3.522	0.044	4.235
		[0.209]	*[0.001]*	*[0.977]*	*[0.453]*
I(Var.)		-0.051			-0.062
		[0.036]			*[0.258]*
Number of obs.	9.6m	9.6m	7.1m	8.9m	9.6m
R-square	0.551	0.551	0.607	0.551	0.551

Note: Square brackets contain p-values.
Source: AnaCredit, own estimates.

Impact of firm default probability on **lending spreads during monetary tightening**

Interaction variable:	Baseline	Competition	Bank size	Capitalization	PD
PD	0.092	0.091	0.055	0.079	0.200
	[0.000]	*[0.000]*	*[0.000]*	*[0.000]*	*[0.001]*
PD × I(After)	-0.002	0.010	0.001	0.001	0.090
	[0.830]	*[0.329]*	*[0.973]*	*[0.900]*	*[0.018]*
PD × I(Variable)		0.003	0.824	0.062	-0.128
		[0.780]	*[0.001]*	*[0.044]*	*[0.028]*
PD × I(After) × I(Var.)		-0.027	-0.020	0.012	-0.091
		[0.027]	*[0.242]*	*[0.088]*	*[0.015]*
I(Var.)		0.003			0.002
		[0.140]			*[0.006]*
I(Var.) × I(After)		0.000			0.001
		[0.815]			*[0.322]*
Number of obs.	9.6m	9.6m	7.1m	8.9m	9.6m
R-square	0.697	0.697	0.656	0.712	0.697

Note: Square brackets contain p-values. I(After) equals 1 for loans issued from July 2022 onward.
Source: AnaCredit, own estimates.

Impact of firm default probability on **lending amounts during monetary tightening**

Interaction variable:	Baseline	Competition	Bank size	Capitalization	PD
PD	-3.032	-3.235	-1.078	-3.060	-12.503
	[0.000]	*[0.000]*	*[0.146]*	*[0.000]*	*[0.010]*
PD × I(After)	-1.084	-0.298	-1.228	-1.106	8.243
	[0.094]	*[0.613]*	*[0.121]*	*[0.084]*	*[0.411]*
PD × I(Variable)		0.416	-4.191	1.067	10.036
		[0.502]	*[0.001]*	*[0.521]*	*[0.034]*
PD × I(After) × I(Var.)		-1.729	1.120	-1.807	-9.404
		[0.052]	*[0.242]*	*[0.067]*	*[0.035]*
I(Var.)		-0.078			-0.105
		[0.144]			*[0.070]*
I(Var.) × I(After)		0.044			0.073
		[0.390]			*[0.281]*
Number of obs.	9.6m	9.6m	7.1m	8.9m	9.6m
R-square	0.551	0.551	0.607	0.552	0.551

Note: Square brackets contain p-values. I(After) equals 1 for loans issued from July 2022 onward.
Source: AnaCredit, own estimates.

Conclusion

- **Transmission channel**: Banks adjust credit terms with borrower risk: spreads $\uparrow$, loan volumes $\downarrow$
- **Volume dominates**: Stronger response in loan amounts $\rightarrow$ banks rely more on volume restrictions for riskier borrowers.
- **Non-linear pricing**: Spread response flattens for high-risk borrowers $\rightarrow$ limits to risk-based pricing.
- **Heterogeneity**:
  - Larger / better-capitalized banks: stronger risk sensitivity.
  - Competition: weakens pricing, not volume discipline.
- **Monetary tightening effect**:
  - High-risk firms: flatter pricing, sharper loan volume cuts.
  - Shift from pricing $\rightarrow$ allocation restrictions.
- **Pricing risk or rationing credit?**
  - Primarily volume restrictions, especially under monetary tightening.