EUROPEAN CENTRAL BANK

EUROSYSTEM

Bank Loan Application and Access to Finance by European SMEs

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The paper in a nushell

- Analysis of bank loan application/ non-application of SMEs in the euro area using ECB–EC SAFE (2014–2025)
- *Four* outcomes: application for a bank loan; reliance on internal funds; discouragement for fear of rejection and *other non-application reasons*
- They calibrate an expected utility model Shapley-consistent LMG weights for relative importance, and estimate multinomial and transition logit models

Key Findings

- A: Firm size and investment needs are the strongest drivers
- D: Behavioral factors (past and expected availability) & refinancing needs
- IF: Behavioral factors (past and expected availability) & lagged profits
- *OR: Perceived costs (age and size) and supply conditions*
- Persistence in discouragement: self-reinforcing over time

Policy Implications

- Distinguishing non-application motives is important
- Evidence suggests sub-optimal loan demand, which may reduce growth and investment

Overall impressions

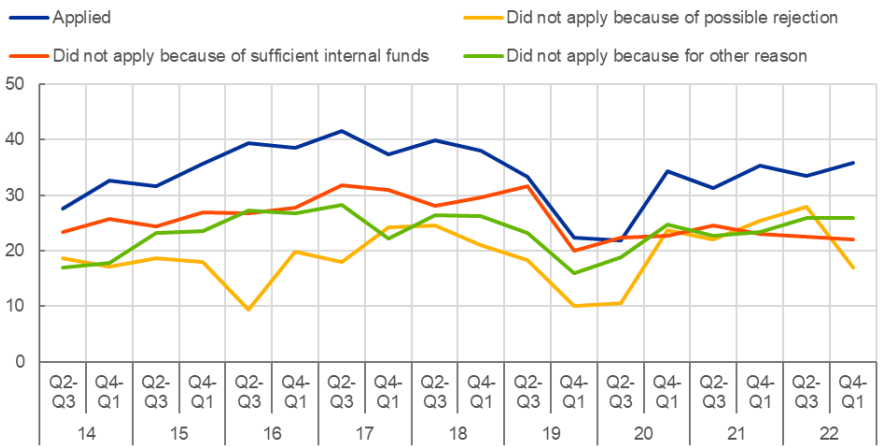
- Nice paper on a policy-relevant topic
- Multilayered empirical strategy
- Enjoyable to read

But the challenge lies in the detail !

Why do we care? What are the real effects ? The paper is not explicit

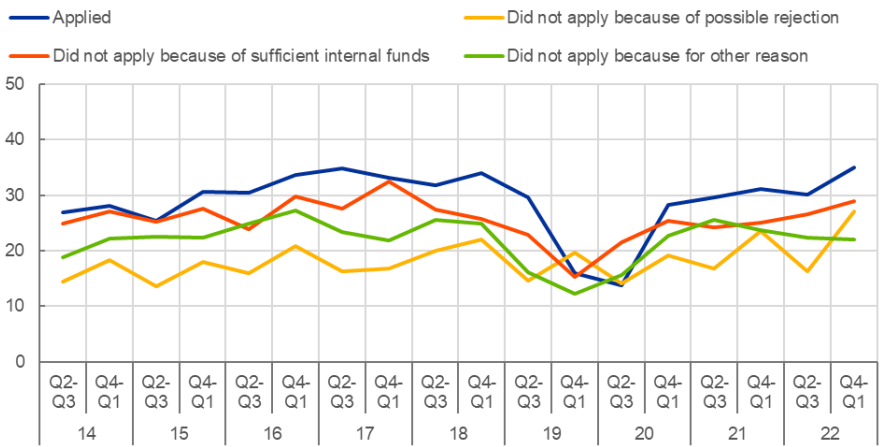
SMEs with increased investment next period

(percentages of respondents)



SMEs with increased number of employees next period

(percentages of respondents)



Base: Small and medium-sized firms (SMEs) for which bank loans (including subsided bank loans) are relevant. The figures refer to rounds 11 to 28 of the survey (April-September 2014 to October 2022 – March 2023).
Notes: The charts shows the weighted share of firms that reported increased investment conditional on past bank loan application behaviour.

Comments on the literature

Additional references that could help for a positioning / contribution of the paper (SAFE)

1. Cowling and Sclip (2023). “Dynamic Discouraged Borrowers”
   - Focus on the intertemporal dynamics of borrower discouragement.
   - Transitions in discouragement depend on business cycle, past credit experiences, firm-level risk factors. Improvements in credit history and profit outlook reduce discouragement
2. Anastasiou, Kallandranis and Drakos (2022). “Borrower Discouragement Prevalence for Eurozone SMEs: Investigating the Impact of Economic Sentiment”
   - Focus on the role of economic sentiment and its volatility to influence the likelihood of discouragement
3. Aristei and Angori (2023). “Heterogeneity and State Dependence in Firms' Access to Bank Credit”
   - Significant impact of past credit restrictions on future access and loan demand. Emphasis on the role of state dependence, informational opacity, and repeated firm-bank interactions for credit conditions

- ❑ Fraser and Nguyen (2025). “The Effects of Business Experience on Discouraged Borrowing and Efficiency in the Credit Market”
  - A dynamic Bayesian-learning model examines how firm learning and cognitive bias impact discouragement. Discouraged borrowers have similar approval probabilities as applicants, showing firm-side learning doesn’t reduce discouragement or improve credit-market efficiency

Comments on the dataset and its use

- Countries in SAFE: 19 countries but 12 are present twice a year and 7 once a year
  - **How do you deal with this?**

- Survey weights: the survey provides weights that restore the proportions of the economic weight of each size class, economic activity and country
  - **Are the results adjusted using the appropriate survey weights?**

Comments on econometric approaches

1. Dependent variables are dummies but explanatory ones are a mixed of dummies and trichotomous variables (except BLS, continuous)
   - **Switch to dummies has an impact on some determinants** (see BLS index)

2. Linear model to extract contribution for the expected utility framework
   - **Why are country and sector dummy variables omitted?**
   - **How do you reconcile your empirical results with the non-parametric mapping you have chosen in the model?**

3. Multinomial logit outcomes are mutually exclusive:
   - **How do you distinguish the mechanical interdependence of the outcomes from the economic interpretation?**

Expected utility scenario modelling : Reporting weights

Relative importance of liner regressions (LMG values Table B2)

	Application	Internal Funds	Discouraged	Other Reasons
Size	+ → 0.386	- 0.015	- 0.077	- → 0.340
Age	+ 0.019	0.004	- 0.023	0.020
Lagged Perception	0.017	+ → 0.493	- → 0.439	- → 0.149
Lagged Outlook	0.023	→ 0.177	→ 0.179	0.115
Lagged Profits	0.015	+ → 0.116	- 0.073	- 0.148
Investment Need	+ → 0.419	- 0.062	- 0.066	- → 0.208
Refinancing Need	0.005	- 0.104	+ → 0.096	0.004
BLS Index	- → 0.113	+ 0.024	+ 0.045	0.015
Observations	7,333	7,333	7,333	7,333
Total Response Variance	0.239	0.227	0.067	0.147

+/- signs of statistical significant variables; → most relative important weight ; chosen weight

For OR: size, investment need and lagged perception – hence no cost channel

Comments on the variables of interest

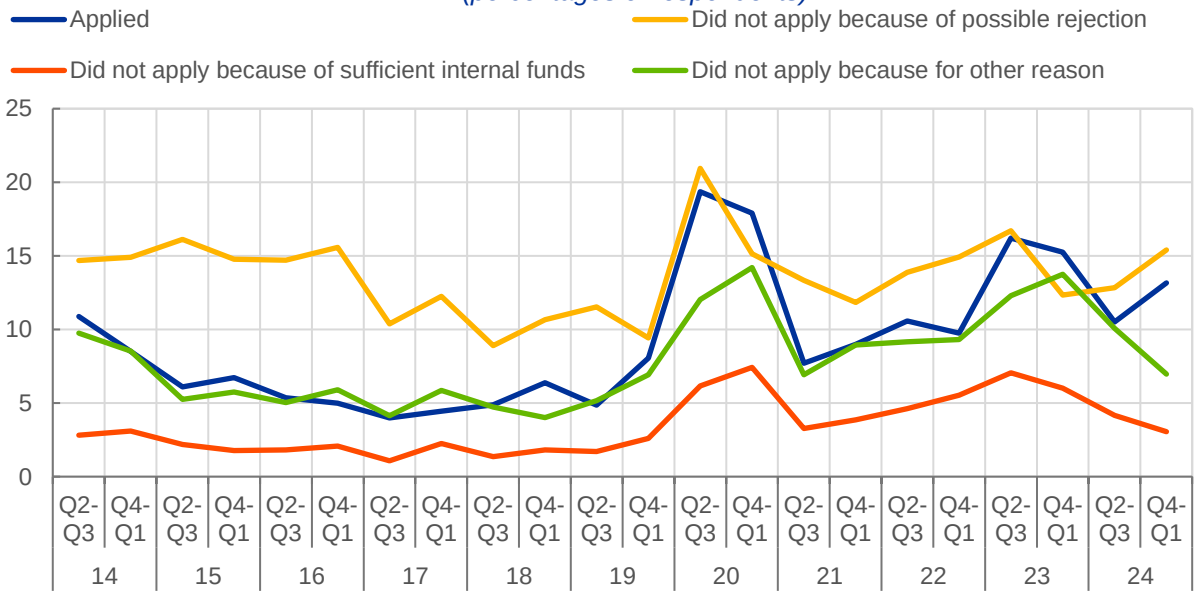
Five main groups of variables:

1. Fixed firm characteristics (size, age)
2. Financing needs (for fixed investment and refinancing)
   - **Working capital?**
3. Past financial performance (profits)
   - **Why not add a more encompassing indicator of financial vulnerability?**
4. Supply-side factors (BLS index)
   - **Not clear how it evolves – many alternative indicators from the survey**
5. Beliefs-driven factors (past and expected availability, past performance)
   - **Why are they "beliefs-driven" one? Because they create persistence?**

Financially vulnerable firms

Vulnerable SMEs by bank loan application behaviour

(percentages of respondents)



Base: Small and medium-sized firms (SMEs) for which bank loans (including subsided bank loans) are relevant.
Note: The figures refer to rounds 11 to 35 of the survey (April-September 2014 to October 2024-March 2025).

- Firms that simultaneously report lower turnover, decreasing profits, higher interest expenses and a higher or unchanged debt-to-assets ratio

Supply side indicator

Supply-side factors (BLS index)

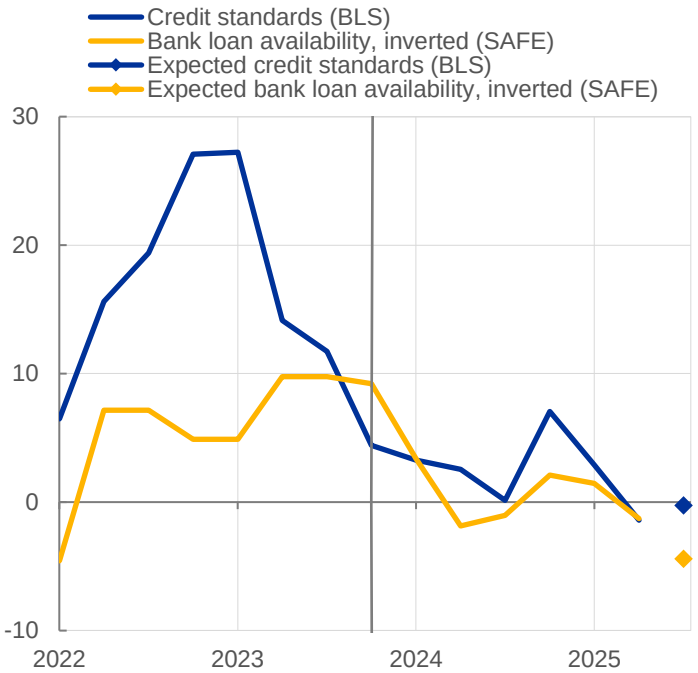
- Combination of 5 different measures (general economic activity, industry or firm specific situation, liquidity position, ability to access market financing, risk tolerance)
- *Country indicator evolving over time*

- *In the paper no information on its dynamics*
- *Indicator is not significant in the determinants of firms' decisions*
- *It is significant in the model to extract contribution – it captures country heterogeneity!*

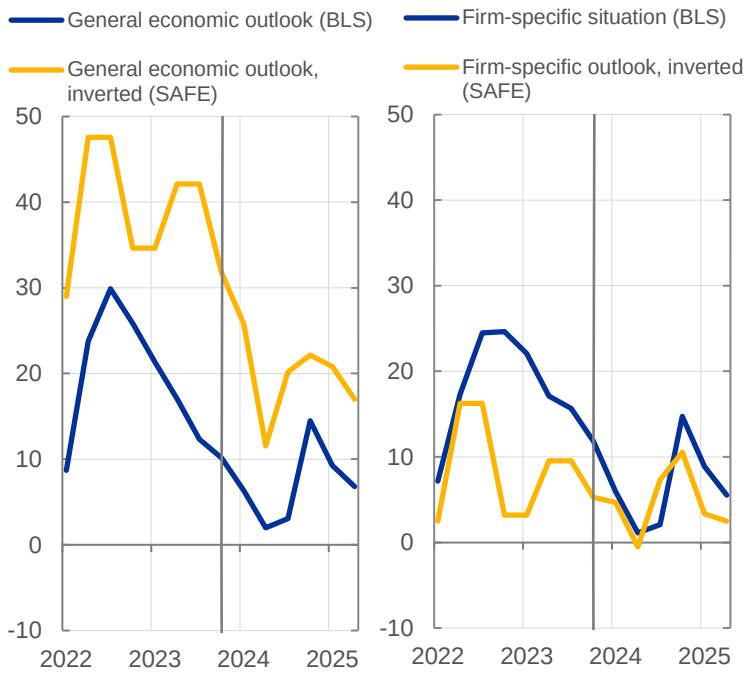
  - **What is the difference between BLS credit standards and your indicator?**
    - ***Advantage: CS can be split for SMEs and large firms***
  - **What about using similar factors from SAFE?**
    - ***Advantage: based on firm level information – more heterogeneity***

Firms and banks align on banking conditions and key drivers

Credit standards and bank loan availability for firms
(net percentages)



Impact of selected factors on credit standards and bank loan availability
(net percentages)

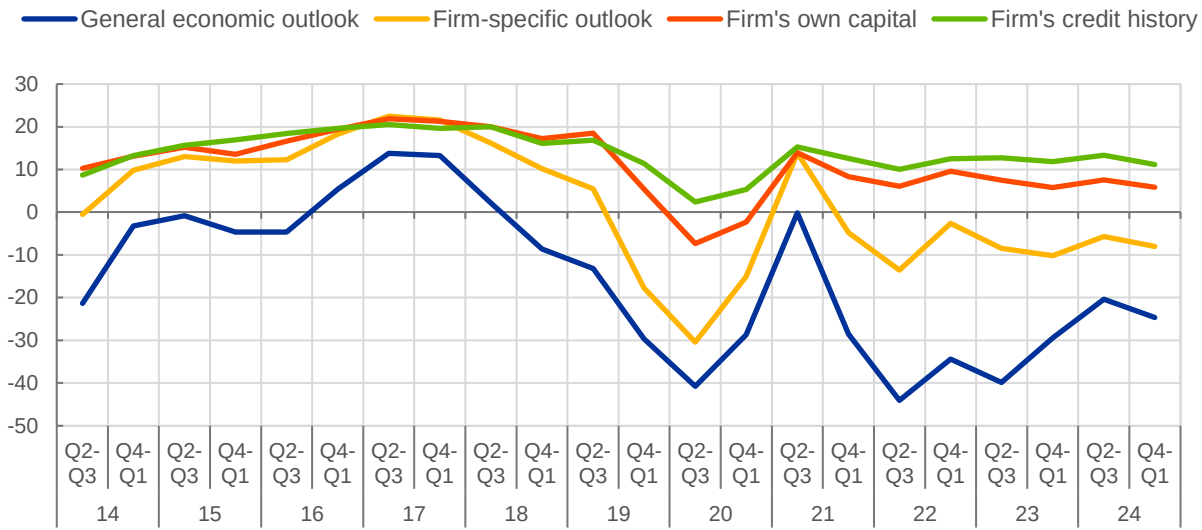


Sources: ECB and European Commission Survey on the Access to Finance of Enterprises (SAFE) and Bank lending survey (BLS).
Notes: For the BLS a positive value is a net tightening of credit standards; for the SAFE a positive value is a net decrease in bank loan availability. SAFE figures are inverted. The diamond refers to expectations over the next 3 months (BLS and SAFE). The vertical lines mark Q4 2023, the period as of which results are directly comparable on a quarterly basis across surveys. (rhs chart): The BLS indicator refers to the industry- and firm-specific outlook, while the SAFE indicator refers to firms' sales and profitability or business plans. Latest observations: Q2 2025 (Q3 2025 for expected values).

Why not use the factors reported directly by firms in the survey instead?

Changes in factors that have an impact on the availability of external financing for SMEs

(net percentages of respondents)

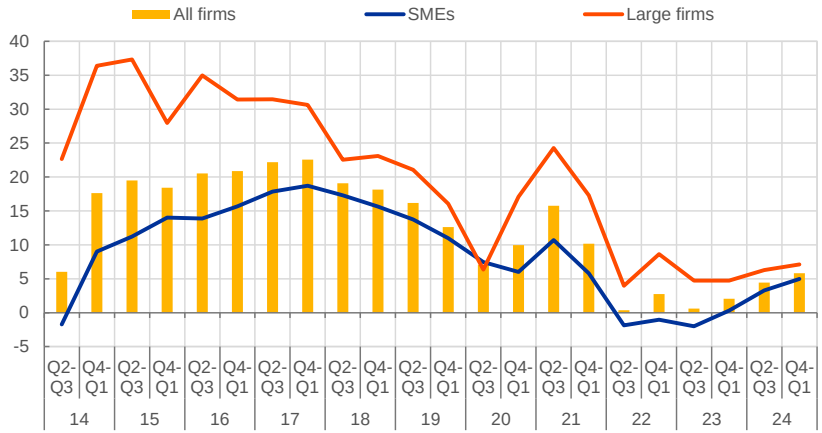


Base: The figures refer to rounds 11 to 35 of the survey (April-September 2014 to October 2024-March 2025).
Notes: Net percentages are the difference between the percentage of enterprises reporting an increase for a given factor and the percentage reporting a decrease.

A different measure of supply side : banks' attitude to provide credit

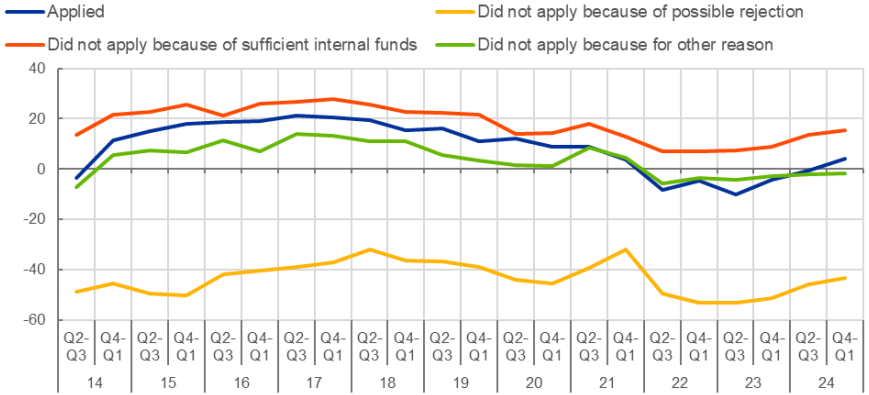
Changes in the willingness of banks to lend to euro area firms

(net percentages of respondents)



Changes in the willingness of banks to lend to SMEs, by bank loan application behaviour

(net percentages of respondents)

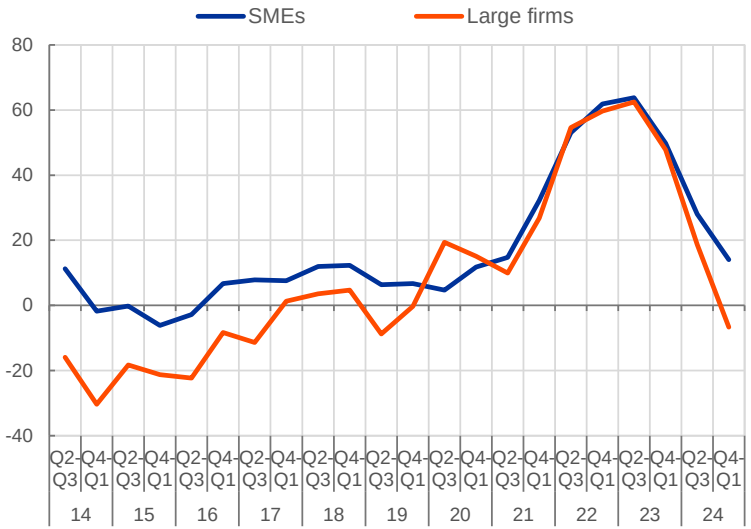


Base: All firms for which at least one bank financing instrument (credit line, bank overdraft, credit card overdraft, bank loan or subsidised bank loan) is relevant. The figures refer to rounds 11 to 35 of the survey (April-September 2014 to October 2024-March 2025).
Notes: Net percentages are the difference between the percentage of enterprises reporting an increase of the factor and the percentage reporting a decrease

In alternative: a more advanced indicator for firms' financing conditions

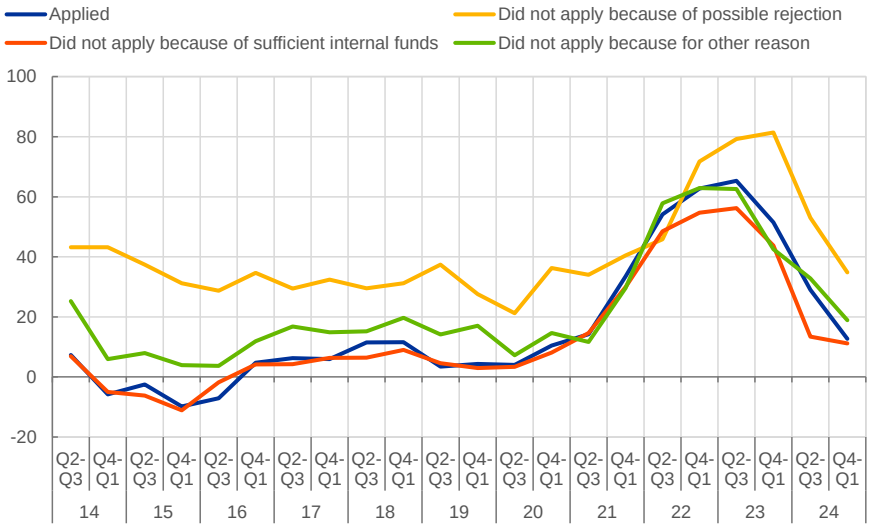
Change in price terms and conditions as perceived by euro area firms

(weighted scores)



Change in price terms and conditions as perceived by SMEs by bank loan application behaviour

(weighted scores)



Source: ECB and European Commission Survey on the Access to Finance of Enterprises (SAFE).
The figures refer to rounds 11 to 35 of the survey (April-September 2014 to October 2024-March 2025).
Notes: The indicator is derived from a factor analysis covering changes in: (i) price terms and conditions for bank loans (changes in interest rates and other costs of bank loans); (ii) non-price terms and conditions (changes in collateral requirements) for loans; (iii) the financial position of firms (in terms of changes in profits, credit history and own capital); and (iv) firms' perceptions of changes in the willingness of banks to provide credit. The reported indicator is one of three main principal components and relates mainly to price terms and conditions The aggregate indicators are the average of firm-level scores, weighted by size, economic activity and country. Positive values indicate a deterioration in firms' financing conditions. The individual scores have a range of between -100 and 100.

Minor comments

Authors should be more careful in some statements:

"… (SAFE) is a rich and unique dataset, *although it is not overly used in research –"*
footnote: Martinez et al. (2022) provide a quite comprehensive meta-analysis covering papers that use the SAFE survey in research. They identify 22 papers using the SAFE since the first wave in 2009

- ***That paper refers to the period 2009-2019! By now, many more papers are available***

"… We focus on five areas previously identified in the literature as influential for loan application behavior ….. *To our knowledge, this is the first study to comprehensively analyze all of these factors and their impact on bank loan application behavior.*"

- ***Maybe not – Focus instead on the novelty of the empirical approach***

Looking forward to seeing the next iteration!