Access to Finance for SMEs in Albania under Monetary Tightening

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Motivation

- Post-pandemic inflation driven by supply chain shocks, weak demand, and the war in Ukraine.
- Central banks raised rates; Albania's base rate rose from 0.5 percent (Jun 2022) to 3.25 percent (Nov 2023).
- SMEs faced tighter financing: +2.5pp in lending rates and stricter credit standards (BoA, BLS 2025).
- SMEs in Albania make up nearly 90 percent of firms and are highly dependent on banks, making them especially vulnerable during monetary tightening.
- Understanding their financing strategies provides key insights into their resilience and capacity to adapt to monetary shocks.

This paper

- Using firm-level data from the Bank of Albania survey on access to finance, we analyze how tightening monetary policy during 2022–2023 affected the demand of SMEs for alternative external financing.
- We also explore heterogeneity in financing behavior across firm characteristics such as age, size, and credit risk.
- Our findings show that during monetary tightening, SMEs adjust their financing strategies depending on firm-specific characteristics: younger firms tend to shift toward internal financing, while medium-sized firms reduce their use of alternative sources, suggesting a stronger reliance on bank credit.
- These results are based on two waves of firm-level survey data (2022–2023), which provide valuable short-term insights, but future research using longer time series could further validate and deepen these conclusions.

Outline

- Related literature
- Data
- Methodology
- Results
- Conclusions

Literature Review

- Credit Channel Theory
  - Bank Lending Channel, Balance Sheet Channel (Bernanke & Gertler, 1995; Kashyap & Stein, 2000)
- Market Frictions
  - SMEs face limited access to capital markets due to their size and lack of public credit ratings (Bougheas et al., 2006).
  - Heavy reliance on banks makes SMEs especially vulnerable when credit supply tightens during monetary contractions (Beck et al., 2006; Coluzzi et al., 2009).
- Information Asymmetry
  - SMEs often suffer from greater information asymmetries compared to large firms (Holmstrom & Tirole, 1997; Diamond, 1991).
  - Lack of transparent financial histories and reputations leads to higher external financing costs.
  - Younger, smaller, and riskier firms are the most affected (Holton et al., 2014; Ferrando & Mulier, 2013).
  - Limited access to capital markets increases the vulnerability of SMEs (Beck et al., 2006; Coluzzi et al., 2009).

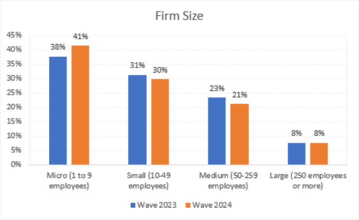
Literature Review

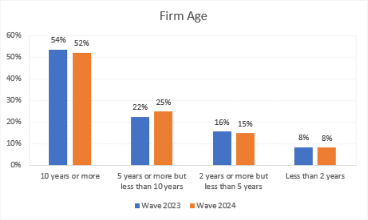
- Substitution Toward Alternative Financing
  - Firms prioritize internal funds, then debt, then equity (Myers & Majluf, 1984; Fazzari et al., 1988).
  - Alternatives to Bank Loans: internal funds, trade credit, and informal finance act as substitutes (Petersen & Rajan, 1997; Nilsen, 2002).
- Constraints on Substitution
  - Large firms can access bond markets to offset credit shocks (Becker & Ivashina, 2014).
  - SMEs rely more on trade credit, informal finance, and non-bank debt (Berger & Udell, 1998; Casey & O'Toole, 2014).
- Recent Empirical Evidence Post-2022
  - Riskier SMEs faced stronger credit constraints (Bottero & Conti, 2023).
  - Alternative finance helped cushion shocks despite monetary tightening (Jude et al., 2024).
  - Firm characteristics such as size, age, credit risk, and constraints shape access (Jin et al., 2021).
  - Weak financial systems push firms toward informal sources (Allen et al., 2012).
- Gap in Albania
  - Most studies focus on banks' lending response (Vika & Suljoti, 2008; Shijaku, 2018);
  - Demand-side SME adaptation is underexplored.

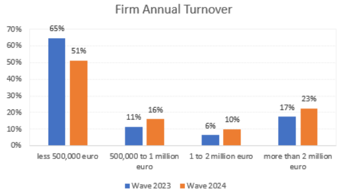
Data

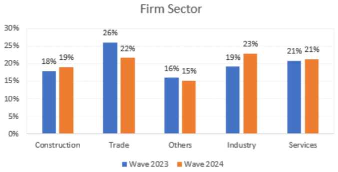
- Firm-level Data from the Bank of Albania Survey on Access to Finance.
- Annual firm interviews over two waves (2023-2024), 1200 firms per wave, representative at the country level.
- **Balance Sheet Information:**
  - Size, age, ownership, turnover, sector.
  - Changes in demand conditions and creditworthiness.
  - Perceived business challenges and performance indicators (finding customers, competition, access to finance, production/labor costs, availability of qualified personnel).
- **Financing Information:**
  - Importance, use, and needs for all external financing sources (retained earnings, bank loans, credit lines, trade credit, equity, debt securities, leasing, factoring, informal debt, etc.).
- **Firm Performance and Outlook:**
  - Perspectives on sales, turnover, firm capital, credit history.
  - Expectations regarding sales, number of employees, and general outlook.

Data

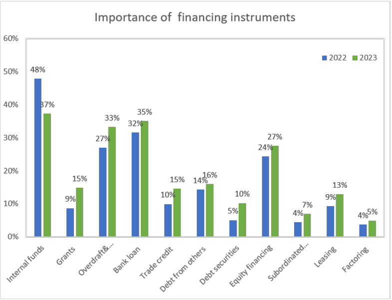

Firm Size
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
38%
41%
31%
30%
23%
21%
8%
8%
Micro (1 to 9 employees)
Small (10-49 employees)
Medium (50-259 employees)
Large (250 employees or more)
Wave 2023
Wave 2024

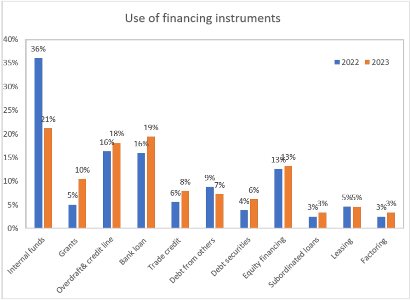

Firm Age
60%
50%
40%
30%
20%
10%
0%
54%
52%
22%
25%
16%
15%
8%
8%
10 years or more
5 years or more but less than 10 years
2 years or more but less than 5 years
Less than 2 years
Wave 2023
Wave 2024


Firm Annual Turnover
70%
60%
50%
40%
30%
20%
10%
0%
65%
51%
11%
16%
6%
10%
17%
23%
less 500,000 euro
500,000 to 1 million euro
1 to 2 million euro
more than 2 million euro
Wave 2023
Wave 2024


Firm Sector
30%
25%
20%
15%
10%
5%
0%
18%
19%
26%
22%
16%
15%
19%
23%
21%
21%
Construction
Trade
Others
Industry
Services
Wave 2023
Wave 2024

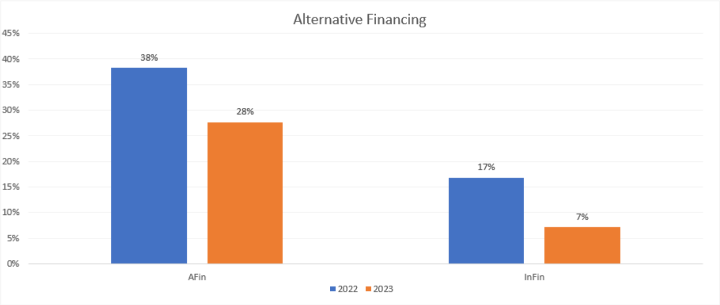
Data


Importance of financing instruments
2022 2023
60%
50%
40%
30%
20%
10%
0%
48%
37%
9%
15%
27%
33%
32%
35%
10%
15%
14%
16%
5%
10%
24%
27%
4%
7%
9%
13%
4%
5%
Internal funds
Grants
Overdraft&...
Bank loan
Trade credit
Debt from others
Debt securities
Equity financing
Subordinated...
Leasing
Factoring


Use of financing instruments
2022 2023
40%
35%
30%
25%
20%
15%
10%
5%
0%
36%
21%
5%
10%
16%
18%
16%
19%
6%
8%
9%
7%
4%
6%
13%
13%
3%
3%
5%
5%
3%
3%
Internal funds
Grants
Overdraft& credit line
Bank loan
Trade credit
Debt from others
Debt securities
Equity financing
Subordinated loans
Leasing
Factoring

Data

- **AFin** $= 1$ if the firm neither used nor applied for bank loans in the past year but did use at least one alternative source of finances.
- **InFin** $= 1$ if the firm used only internal financing, neither used nor applied for bank loans in the past year.



Data

Table: Firm Characteristics and Financial Indicators, 2022–2023

Variable	Mean (2022)	Mean (2023)	N (2022)	N (2023)	P-value
AFin	0.382	0.276	944	981	0.000
IFin	0.168	0.071	944	981	0.000
AGE	1.787	1.790	907	920	0.9479
Size	1.766	2.038	883	878	0.000
Firm Sector	2.980	2.908	916	926	0.2463
Increased fixed investment	0.206	0.274	806	763	0.0016
Increased profit	0.640	0.587	905	904	0.0221
Increased labor, other cost	0.809	0.748	913	923	0.0014
Loan size decreased	0.060	0.039	517	517	0.1144
Interest rate increased	0.583	0.414	575	565	0.000
Safe	0.337	0.454	914	923	0.000

Methodology Approach

Baseline Model:

$$\Pr(\text{AFin}_i = 1) = \Phi\left(\alpha + \beta_1 D_{2023} + \gamma \cdot \text{FirmC}_i + \delta \cdot Q_i\right)$$

- $\mathbf{AFin_i}$ $= 1$ if firm uses only alternative financing.
- $\mathbf{D_{2023}}$ $= 1$ for observations in 2023 (monetary tightening).
- $\mathbf{FirmC_i}$ $=$ firm characteristics (size, age, sector, turnover).
- $\mathbf{Q_i}$ $=$ financial health indicators (sales growth, expected turnover, cost pressure, credit quality).
- $\Phi(\cdot)$ $=$ standard normal cumulative distribution function.

Interaction Model:

$$\Pr(\text{AFin}_i = 1) = \Phi\Big(\alpha + \beta_1 D_{2023} + \beta_2 \text{FirmC}_i + \beta_3 (D_{2023} \times \text{FirmC}_i) + \gamma X_i + \delta Q_i\Big)$$

- Interaction term highlights heterogeneous firm responses to monetary tightening.

Table: Probit Model Results for Alternative Financing

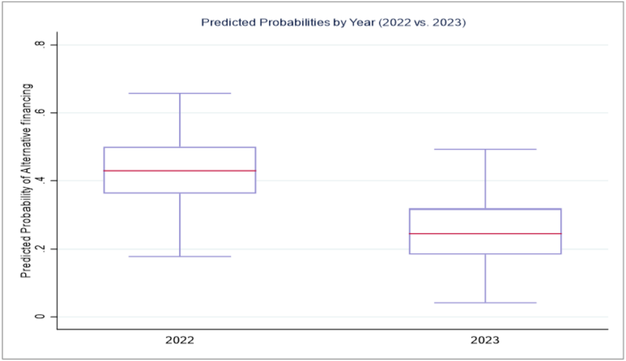
Variable	(1)	(2)	(3)	(4)	(5)
D2023	-0.283***	-0.294***	-0.295***	-0.413***	-0.504***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm Age (Ref: more 10 years)					
5–10 years	0.044	0.058	0.045	0.109	0.149
	(0.583)	(0.468)	(0.579)	(0.343)	(0.271)
2–5 years	0.194**	0.199**	0.205**	0.202	0.136
	(0.036)	(0.031)	(0.029)	(0.111)	(0.380)
less 2 years	-0.026	0.019	0.001	-0.043	-0.022
	(0.835)	(0.881)	(0.996)	(0.813)	(0.928)
Turnover (Ref: less 500k€)					
500k–1M€	0.090		0.047	0.093	0.138
	(0.337)		(0.632)	(0.447)	(0.317)
1–2M€	0.217*		0.180	0.240	0.284
	(0.067)		(0.159)	(0.149)	(0.148)
more 2M€	-0.107		-0.131	-0.115	0.003
	(0.223)		(0.205)	(0.376)	(0.982)
Firm Size (Ref: Micro)					
Small		0.182**	0.160**	-0.006	-0.032
		(0.017)	(0.045)	(0.953)	(0.813)
Medium		0.029	0.009	-0.224*	-0.349**
		(0.752)	(0.927)	(0.095)	(0.031)
Large		0.033	0.077	-0.071	-0.215
		(0.793)	(0.595)	(0.704)	(0.325)
Increased Profit		0.101*	0.091	-0.053	-0.112
		(0.098)	(0.143)	(0.575)	(0.332)
Safe				0.190**	0.177
				(0.045)	(0.125)
Decreased Loan Size					0.452*
					(0.067)
Increased Interest Rate					-0.207**
					(0.045)
Constant	-0.190**	-0.323***	-0.301***	-0.276	-0.223
	(0.034)	(0.002)	(0.005)	(0.138)	(0.357)
Firm Controls	No	No	No	Yes	Yes
Pseudo R^2	0.016	0.018	0.020	0.041	0.059
Observations	1754	1761	1700	995	727

Regression Results

Table: Effects of Monetary Tightening on Alternative Financing

Variable	Size	Age	Profit	Turnover	Credit Quality	Decrease Loan Size	Increase Interest Rate
D2023	-0.785** (0.014)	-0.318** (0.010)	-0.272* (0.074)	-0.082 (0.662)	-0.174 (0.318)	-0.534*** (0.000)	-0.248* (0.070)
Firm Size (Ref: Large)							
Micro	0.030 (0.918)						
Small	0.155 (0.542)						
Medium	-0.369 (0.145)						
Firm Age (Ref: ¿10 yrs)							
5–10 yrs		0.374** (0.046)					
2–5 yrs		0.440** (0.048)					
¡2 yrs		0.211 (0.528)					
Profit / Turnover / Safety							
Increased profit			0.120 (0.461)				
Turnover ¡500k				0.285 (0.144)			
Turnover 500k–1M				0.444** (0.046)			
Turnover 1–2M				0.624** (0.038)			
Safe firm					0.452*** (0.007)		
Decreased loan size						0.199 (0.539)	
Increased interest rate							0.069 (0.634)
Interaction Terms							
D2023 x Micro	0.393 (0.304)						
D2023 x Small	0.100 (0.782)						
D2023 x Medium	0.507 (0.177)						
D2023 x Age 5–10		-0.427* (0.086)					
D2023 x Age 2–5		-0.575** (0.045)					
D2023 x Age ¡2		-0.493 (0.313)					
D2023 x Increased profit			-0.424** (0.040)				
D2023 x Turnover ¡500k				-0.585** (0.016)			
D2023 x Turnover 500k–1M				-0.561* (0.053)			
D2023 x Turnover 1–2M				-0.609 (0.114)			
D2023 x Safe firm					-0.496** (0.021)		
D2023 x Decreased loan size						0.580 (0.232)	
D2023 x Increased interest rate							-0.557*** (0.006)
Constant	-0.296 (0.326)	-0.519* (0.056)	-0.549** (0.047)	-0.668** (0.021)	-0.601** (0.034)	-0.420 (0.120)	-0.571** (0.039)
Industry dummy				Yes			
Firm controls				Yes			
Pseudo R^2	0.063	0.065	0.063	0.066	0.064	0.060	0.066

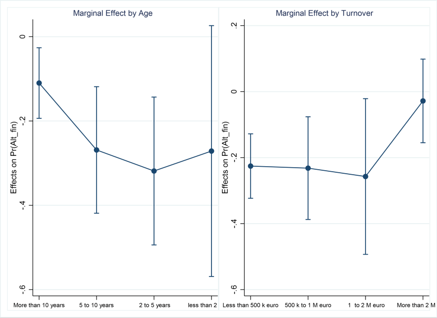
Regression Results



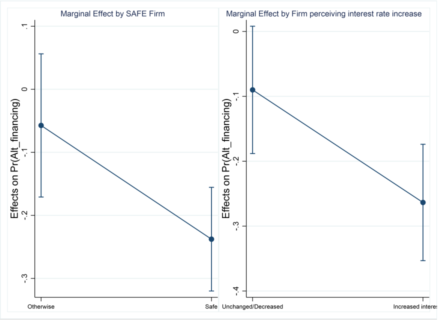
- In 2022, the predicted probability that firms would use alternative financing was 43 percent.
- Despite an 18 percentage point (pp) decline in 2023, approximately 25 percent of firms continued to rely on such financing.

Results: Firm heterogeneity analysis

Firm Age, Turnover



Safe Firm, Firm increased interest rate



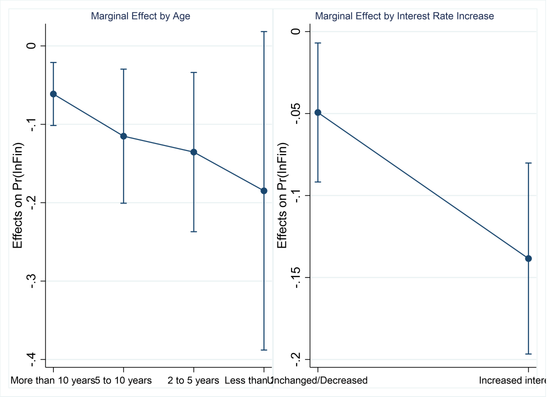
- Monetary tightening affects firms unevenly, with younger, smaller, and constrained firms initially relying more on alternative financing.
- Over time, firms adapt their financing mix, highlighting the need for policies that protect vulnerable firm segments.

Table: Effects of Monetary tightening on Internal Financing

Variable	Size	Age	Profit	Turnover	Credit quality	Decrease loan size	Increase interest rate
D2023	-0.647 (0.148)	-0.715*** (0.004)	-0.828*** (0.002)	-1.066** (0.016)	-0.787** (0.013)	-0.828*** (0.000)	-0.621** (0.017)
Firm Size (Ref: Large)							
Micro	-0.301 (0.406)						
Small	-0.451 (0.172)						
Medium	-0.928*** (0.008)						
Firm Age (Ref: more than 10 years)							
5–10 yrs		0.400* (0.083)					
2–5 yrs		0.407 (0.127)					
¡2 yrs		0.744** (0.044)					
Profit / Turnover / Safety							
Increased profit			-0.063 (0.853)				
Turnover less 500k				0.190 (0.561)			
Turnover 500k–1M				0.446 (0.453)			
Turnover 1–2M				0.235 (0.743)			
Safe firm					0.136 (0.367)		
Decreased loan size						0.355 (.)	
Increased interest rate							0.566*** (0.008)
Interaction Terms							
D2023 x Micro	-0.238 (0.651)					0.000 (.)	-0.457 (0.203)
D2023 x Small	-0.128 (0.804)						
D2023 x Medium	0.000 (.)						
D2023 x Age 5–10		-0.140 (0.728)					
D2023 x Age 2–5		-0.495 (0.362)					
D2023 x Age ¡2		-0.317 (0.611)					
D2023 x Increased profit			-0.063 (0.853)				
D2023 x Turnover less 500k				0.190 (0.702)			
D2023 x Turnover 500k to 1M				0.446 (0.453)			
D2023 x Turnover 1–2M				0.235 (0.743)			
D2023 x Safe					-0.108 (0.778)		
Constant	-1.152** (0.012)	-1.301*** (0.005)	-1.292*** (0.005)	-1.220*** (0.008)	-1.300*** (0.006)	-1.286*** (0.006)	-1.358*** (0.004)
Industry dummy				Yes			
Firm Controls				Yes			
Pseudo R^2	0.206	0.215	0.212	0.214	0.212	0.210	0.216
Observations	690	727	727	727	727	713	727

Interaction results: Use of internal funds

Predicted probabilities of firms' use of internal funding



- Sharp monetary shocks trigger precautionary use of internal funds, especially by younger and more vulnerable firms.
- Prolonged tightening drives a uniform decline in internal funding across all firm types.

Balanced Panel: Alternative to Bank Financing

Variable	(1) Alt→Bank	(2) Alt→Bank	(3) Alt→Bank	(4) Alt→Bank	(5) Alt→Bank
Firm Age (Ref: more than 10 yrs)					
5–10 yrs	0.0590	0.0691	0.0579	0.0122	0.0496
	(0.245)	(0.182)	(0.257)	(0.860)	(0.526)
2–5 yrs	0.103*	0.109*	0.113*	0.0708	0.0888
	(0.074)	(0.063)	(0.054)	(0.379)	(0.328)
less 2 yrs	-0.0449	0.0126	0.0157	0.00763	0.185
	(0.569)	(0.883)	(0.863)	(0.954)	(0.256)
Firm Turnover (Ref: more than 2M)					
less 500k	0.0510		0.114**	0.173***	0.126*
	(0.277)		(0.028)	(0.008)	(0.077)
500k–1M		0.192***	0.215***	0.230***	0.262***
		(0.004)	(0.001)	(0.002)	(0.001)
1–2M	0.102		0.102	0.0845	0.170
	(0.217)		(0.197)	(0.396)	(0.129)
Firm Size (Ref: Large)					
Micro		-0.0937	-0.153*	-0.130	-0.155
		(0.197)	(0.063)	(0.213)	(0.185)
Small		-0.0608	-0.126	-0.0790	-0.0674
		(0.395)	(0.105)	(0.396)	(0.510)
Medium					
Other Controls					
Increased profit		0.0280	0.0303	-0.0272	-0.0187
		(0.465)	(0.433)	(0.634)	(0.776)
Safe firm			0.158***	0.162***	
			(0.003)	(0.008)	
Increased fixed inv.			0.0147	-0.0159	
			(0.820)	(0.819)	
Increased labor cost			0.134*	0.0144	
			(0.077)	(0.888)	
Increased interest exp.			0.0115	0.00244	
			(0.830)	(0.968)	
Decreased loan size				0.214	
				(0.117)	
Increased interest rate					0.0644
					(0.280)
Pseudo R^2	0.024	0.015	0.029	0.067	0.087
Observations	593	593	579	324	252

Balanced Panel: Bank to Alternative Financing

Variable	(1) Bank→Alt	(2) Bank→Alt	(3) Bank→Alt	(4) Bank→Alt	(5) Bank→Alt
Firm Age (Ref: more than 10 yrs)					
5–10 yrs	-0.00470	0.00326	0.000953	-0.0553	-0.0735*
	(0.890)	(0.927)	(0.978)	(0.131)	(0.093)
2–5 yrs	0.0237	0.0493	0.0383	0.0335	0.0470
	(0.557)	(0.277)	(0.376)	(0.549)	(0.515)
less than 2 yrs	0.0723	0.0934	0.114	0.108	0.130
	(0.312)	(0.226)	(0.173)	(0.356)	(0.399)
Firm Turnover (Ref: more than 2M)					
less 500k	0.0104		0.0302	0.0563	0.0317
	(0.760)		(0.440)	(0.182)	(0.558)
500k–1M	-0.0142		-0.0159	0.0134	0.0199
	(0.749)		(0.716)	(0.750)	(0.738)
1–2M	0.0423		0.0367	0.0285	0.0433
	(0.494)		(0.524)	(0.642)	(0.597)
Firm Size (Ref: Large)					
Micro	-0.00470	0.0155	0.0200	0	-0.00470
	(0.918)	(0.730)	(0.618)	(.)	(0.918)
Small	0.0238	0.0455	0.0654	0	0.0238
	(0.605)	(0.310)	(0.124)	(.)	(0.605)
Medium					
Increased profit		-0.0255	-0.0298	0.00209	0.0171
		(0.357)	(0.282)	(0.953)	(0.734)
Safe firm			-0.0613	-0.0519	
			(0.101)	(0.296)	
Increased fixed inv.			-0.00263	0.0182	
			(0.950)	(0.755)	
Increased labor cost			-0.0726	-0.145	
			(0.324)	(0.220)	
Increased interest exp.			0.0289	0.0889*	
			(0.422)	(0.080)	
Decreased loan size				0.0149	
				(0.859)	
Increased interest rate					-0.0509
					(0.239)
Pseudo R^2	0.012	0.0184	0.0303	0.0916	0.088
Observations	593	593	579	324	220

Conclusions

- Monetary tightening (2022–2023) sharply reduced SMEs' access to alternative and internal financing, hitting younger, smaller, and weaker firms hardest.
- Cost pressures from rising interest rates, not credit supply shortages, were the main transmission channel.
- Internal financing declined across all firms, signaling erosion of financial resilience.
- Switching behavior: 25 percent moved from alternative to bank financing, 13 percent in the opposite direction.
- Overall: firms faced simultaneous contraction in both financing channels, revealing deeper liquidity pressures.
- Targeted support is essential to maintain access for vulnerable firms.

Thank You!