COVID-19 and Credit Constraints: Survey Evidence from Italian Firms

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 \Rightarrow explore the role of credit constraints in shaping the effects of an exogenous shock.

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- $1. \ \ Whether \ credit \ constraints \ amplify/mitigate \ the \ negative \ effects \ of \ the \ pandemic:$
 - \Rightarrow existing evidence mostly focuses on monetary policy or financial shocks.
- 2. How financial frictions affect firms' pricing strategies:
 - \Rightarrow lively debate from an empirical standpoint.

Empirical challenges

Shock and measurement of its effects:

- 1. COVID-19 unexpected and outside financial/production sectors;
 - Italy first to be hit among Western countries (unanticipated national lockdown).
- 2. Measuring the effect:
 - forward-looking expectations and plans;
 - two data points in a short time window (*revisions* \Rightarrow no other event);
 - immediate reaction and no confounding effects of policy responses.

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Identification of credit-constrained firms:

- i. direct indicator of credit constraints: info on loan applications;
 - control for financial fragility and firms' prospects;
- ii. SMEs exposed to adverse shocks and affected by financial frictions.

Preview of the results

- 1. Amplification vs. mitigation:
 - i. credit-constrained firms more pessimistic about expected sales and orders;
 - ii. plan to reduce employment and investment more.
 - \Rightarrow Evidence in favor of amplification.

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- 1. Amplification vs. mitigation:
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 - \Rightarrow Evidence in favor of amplification.
- 2. Pricing strategies:
 - i. credit-constrained firms plan to increase prices relatively more;
 - ii. effect driven by non-essential firms and firms with more market power.
 - \Rightarrow Evidence in favor of mark-up strategies aimed at boosting internal sources of funds.

Effects over and beyond firms' financial fragility and fundamentals.

Data

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MET survey on Italian firms

A. 2019 wave of the MET survey:

- manufacturing and production-service sectors;
- all size classes, including micro-sized companies;
- additional representativeness: 20 NUTS-2 areas, 12 macro-sectors;
- 24,000 firms in the cross-section;
- questions on loan applications \Rightarrow direct indicator of credit constraints;
- expectations on future sales and pricing strategies;
- broad set of firms' characteristics: snapshot of firms' conditions in entering the pandemic;
- completed at end-January 2020 \Rightarrow a few days before the official case zero.

COVID-19 MET survey

B. Ad hoc COVID-19 survey collected between March 24 and April 7, 2020:

- seven weeks after the official case zero in Italy;
- two weeks after the general lockdown;
- still large uncertainty on policy measures (decreto liquidità April 8);
- overall number of firms approximately 8,000 (no sign of distortion).
- same firms and same questions between the two surveys;
- \Rightarrow analyze how expectations and plans are revised due to the pandemic.

• Information:

- expectations on sales and orders;
- plans for prices, employment, and investment;
- other: measures undertaken in response to the pandemic and concerns regarding its evolution.
- C. 2019 balance-sheet data (CRIF-Cribis D&B).

Classification of credit-constrained firms

- Use information on loan application from the 2019 MET survey:
 - i. whether firms applied for a loan;
 - ii. results of the application or reasons for not applying.
- Define credit-constrained firms if replied that either:
 - i. the loan was granted but a very unfavorable conditions (maturity/size);
 - ii. the loan was denied;
 - iii. they didn't applied as the application would have been denied.
- Overall, about 20% of firms are credit constrained.
- Pre-COVID-19 \Rightarrow predetermined.
- Advantage of direct measures: no misclassification (e.g., liquidity).

Expected sales growth by credit-constrained status



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Planned prices revision by credit-constrained status



P-value of Kolmogorov-Smirnov test essentially zero.

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Empirical analysis

Estimating equation

• We estimate the following model:

$$\mathbb{E}_{i,t}(y_{i,t+1}) = \beta C C_{i,t-1} + \delta \mathbb{E}_{i,t-1}(y_{i,t+1}) + \gamma x_{i,t-1} + \lambda_s + \lambda_p + \varepsilon_{i,t}$$

where

- $\mathbb{E}_{i,t}(y_{i,t+1})$ is the expectation or plan of firm *i* on variable y_i at horizon t+1 using information set at time *t* (post-Covid);
- $\mathbb{E}_{i,t-1}(y_{i,t+1})$ is the expectation or plan of firm *i* on variable y_i at horizon t+1 using information set at time t-1 (pre-Covid);
- $CC_{i,t-1}$ is the binary variable that defines the credit constraints status;
- $x_{i,t-1}$ is a set of firms' characteristics (essential, size, age, financial health);
- λ_s and λ_p are the sectoral (88, 2-Digits) and provincial (107, NUTS3) fixed effects.

OLS (or alternative models) with post-stratification weights (Solon et al., 2015) and clustering at the 2-digit industry level.

Expected sales

Model	C	DLS	Ordered Logit			
Dependent variable:	$\mathbb{E}_{i,t}(\mathrm{Sales}^g 1 \mathrm{Y})$	$\mathbb{E}_{i,t}(\text{Sales}^g 1 Y)$	$\mathbb{E}_{i,t}(\text{Sales}^g 1 Y)$	$\mathbb{E}_{i,t}(\text{Sales}^g 1 Y)$		
	(1)	(2)	(3)	(4)		
Credit constrained	-0.305***	-0.298***	-1.047***	-1.043***		
	[0.0435]	[0.0405]	[0.164]	[0.152]		
Essential	0.417***	0.413***	1.278***	1.310***		
	[0.0171]	[0.0157]	[0.140]	[0.126]		
$\mathbb{E}_{i,t-1}(\text{Sales}^g 1Y)$: Very Negative	-0.188***	-0.186***	-0.696***	-0.791***		
	[0.0359]	[0.0323]	[0.207]	[0.164]		
$\mathbb{E}_{i,t-1}(\text{Sales}^g 1Y)$: Negative	-0.296***	-0.284***	-0.936***	-0.911***		
	[0.0449]	[0.0424]	[0.185]	[0.180]		
$\mathbb{E}_{i,t-1}(\text{Sales}^g 1Y)$: Positive	0.124***	0.134***	0.406***	0.432***		
	[0.0265]	[0.0263]	[0.0844]	[0.0826]		
$\mathbb{E}_{i,t-1}(\text{Sales}^g 1Y)$: Very Positive	0.414***	0.441***	0.865***	0.953***		
	[0.105]	[0.105]	[0.224]	[0.232]		
Size	0.175^{***}	0.157***	0.530***	0.404***		
	[0.0170]	[0.0174]	[0.0617]	[0.0808]		
Age	-0.0361	-0.0367	-0.117*	-0.105		
	[0.0227]	[0.0237]	[0.0616]	[0.0716]		
Group	0.136***	0.156***	0.315***	0.455***		
	[0.0260]	[0.0285]	[0.0676]	[0.0890]		
Family firm	-0.150***	-0.149***	-0.440***	-0.422***		
	[0.0330]	[0.0331]	[0.0694]	[0.0703]		
Z-score	-0.0197***	-0.00484	-0.138***	-2.382***		
	[0.00362]	[0.00363]	[0.0396]	[0.572]		
Liquidity		0.0351		0.328		

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Other quantitative variables

	(1)	(2)	(3)	(4)	(5)	(6)
	$\mathbb{E}_{i,t}(\mathrm{Sal}^g \mathrm{3M})$	$\mathbb{E}_{i,t}(\mathrm{Sal}^g 1 \mathrm{Y})$	$\mathbb{E}_{i,t}(\mathrm{Ord}^g)$	$\mathbb{E}_{i,t}(\mathrm{Emp}^g)$	$\mathbb{E}_{i,t}(\operatorname{ITan}^g)$	$\mathbb{E}_{i,t}(\mathrm{IInt}^g)$
Credit constrained	-14.29***	-9.261***	-10.57^{***}	-9.045***	-7.815^{***}	-6.812^{***}
	[1.835]	[1.900]	[1.883]	[2.149]	[1.811]	[1.694]
Essential	10.11^{***}	9.025***	7.163***	1.776	7.093***	6.652^{***}
	[1.897]	[0.870]	[1.060]	[1.169]	[0.752]	[1.120]
$\mathbb{E}_{i,t-1}(Sales^{g}1Y)$: Very Negative	-10.22***	-6.866***	-3.561	-7.042^{***}	-3.675^{***}	-2.631
	[1.792]	[1.721]	[2.502]	[2.159]	[1.378]	[2.252]
$\mathbb{E}_{i,t-1}(\text{Sales}^g 1 \mathbf{Y})$: Negative	-5.637***	-8.838***	-7.809***	-6.481**	-3.832	-5.414^{**}
	[1.787]	[1.772]	[2.165]	[3.241]	[2.399]	[2.425]
$\mathbb{E}_{i,t-1}(\text{Sales}^g 1 \mathbf{Y})$: Positive	0.684	1.301	1.853	0.753	4.165^{**}	1.689
	[1.367]	[1.655]	[1.639]	[1.116]	[1.887]	[1.707]
$\mathbb{E}_{i,t-1}(Sales^{g}1Y)$: Very Positive	-7.973***	-0.107	3.120	0.813	10.32^{***}	7.162^{***}
	[2.371]	[1.554]	[2.484]	[1.376]	[1.421]	[2.043]
Size	5.139^{***}	4.482***	3.411^{***}	1.086*	1.411**	1.226^{***}
	[0.822]	[0.491]	[0.384]	[0.602]	[0.566]	[0.268]
Age	-1.310*	-1.688*	-1.491*	1.904^{*}	0.897	3.050*
	[0.782]	[0.906]	[0.763]	[1.033]	[1.000]	[1.554]
Group	-2.255*	-0.730	-2.225^{***}	1.161^{**}	5.666^{***}	5.202^{***}
	[1.177]	[1.073]	[0.665]	[0.543]	[0.618]	[0.569]
Family firm	-2.358***	-2.057	-1.454^{**}	-1.256	-3.378**	-0.477
	[0.657]	[1.393]	[0.606]	[0.947]	[1.339]	[0.908]
Z-score	1.502^{***}	1.511^{***}	1.522^{***}	0.194	0.710**	0.885^{***}
	[0.275]	[0.191]	[0.154]	[0.215]	[0.324]	[0.172]
Liquidity	6.369**	5.407^{**}	5.929^{***}	0.196	3.009	3.895
	[2.478]	[2.626]	[1.937]	[2.262]	[2.991]	[2.591]

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Pricing strategies

Dependent variable:	$\mathbb{E}_{i,i}(\mathbb{P}^g)$	E: (P ^g)	$\Delta \mathbb{E}_{i,i}(\mathbf{P}^g)$
Dopondone failable	(1)	(2)	(3)
Credit constrained	3.754***	4.250***	3.984***
	[0.889]	[0.870]	[1.039]
Essential	-4.059***	-4.076***	-4.597***
	[0.995]	[0.896]	[0.808]
$\mathbb{E}_{i,t-1}(\mathbb{P}^g)$	0.0313	0.0267	
	[0.0850]	[0.0842]	
Size	-1.172***	-1.198***	-1.197***
	[0.196]	[0.174]	[0.191]
Age	-0.501	-0.540	-0.0317
	[0.401]	[0.393]	[0.422]
Group	0.253	0.501	0.388
	[1.502]	[1.404]	[1.477]
Family firm	0.681	0.603	0.146
	[0.580]	[0.621]	[0.753]
Z-score	-0.218**	-0.102	-0.159
	[0.0969]	[0.102]	[0.143]
Liquidity		0.712	0.628
		[1.650]	[2.202]
Leverage		-1.529*	-1.287
		[0.832]	[0.985]
Cash flow		-2.048	-1.464
		[1.302]	[1.857]
Tangible		0.154	-0.882
		[1.072]	[1.216]

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Summary of the Results

Credit-constrained firms:

- i. are significantly more pessimistic about their expected future sales;
- ii. plan to decrease employment and investment relatively more than their unconstrained counterparts (amplification);
- iii. plan to increase prices relatively more than unconstrained firms (mark-up strategies);
 - Overall: credit-constrained firms deal with the shock by reducing output and increasing prices to internally improve liquidity.

Robustness

- Propensity score matching: NN matching with bias correction (Abadie and Imbens, 2011) or radius matching.
- Alternative definitions of credit-constrained firms:
 - excluding discouraged borrowers, or
 - using only loans that are fully denied.
- Expectations about access to financial aid through government programs.
- Other robustness checks:
 - unweighted estimators;
 - clustering at the provincial (NUTS-3) level as opposed to the 2-digit sector;
 - granular controls for the belonging sector (6-Digit).

Effect on prices: testing the mechanism

- Why do credit-constrained firms tend to increase prices relatively more?
- If firms have a customer base, they have an incentive to charge higher prices to generate additional cash flow ...
- We can perform some indirect tests to verify this hypothesis.

Credit-constrained firms should have a higher incentive to raise prices if

- they are non-essential (stronger shock);
- they have more market power;
- they have less inventories.

Effect on prices: testing the mechanism

Dependent variable:	$\mathbb{E}_{i,t}(\mathbb{P}^g)$	$\mathbb{E}_{i,t}(\mathbb{P}^g)$	$\mathbb{E}_{i,t}(\mathbb{P}^g)$	$\mathbb{E}_{i,t}(\mathbb{P}^g)$	$\mathbb{E}_{i,t}(\mathbb{P}^g)$	$\mathbb{E}_{i,t}(\mathbb{P}^g)$
	(1)	(2)	(3)	(4)	(5)	(6)
Credit constrained	8.320***	8.420***	7.129***	7.256***	12.97^{***}	11.13***
	[1.455]	[1.473]	[1.425]	[1.436]	[2.429]	[2.648]
Essential	-2.201**	-2.265***	-2.134**	-2.180**	-2.744^{***}	-2.591***
	[0.955]	[0.851]	[0.949]	[0.852]	[0.494]	[0.497]
Constrained \times Essential	-8.558***	-8.171***	-9.660***	-9.303***	-12.81***	-13.38***
	[2.599]	[2.444]	[2.633]	[2.485]	[3.145]	[3.181]
Constrained \times Concentration			2.081***	2.067***		2.489***
			[0.320]	[0.340]		[0.541]
Constrained \times Inventories					-20.08***	-17.21**
					[7.203]	[7.421]
Inventories					4.053	2.344
					[7.017]	[7.026]
Province (NUTS3) FE	~	~	~	~	~	~
Industry (2 Digit) FE	~	~	~	~	~	✓
Wide Controls	х	1	х	\checkmark	1	1
R-squared	0.275	0.277	0.282	0.283	0.356	0.357
N obs.	5026	5026	4989	4989	3659	3629

Additional results

- *Past* credit-constrained status explains firms' concerns about credit access in the *aftermath* of the pandemic outbreak.
- Credit-constrained firms declare a lower adoption of teleworking, and a higher probability of reducing the number of workers and the hours worked.

Conclusions

- Credit constraints played a key role in shaping the effects of the pandemic:
 - evidence of amplification on quantities;
 - evidence of mark-up strategies to generate additional cash flow.
- Findings provide support for the policy measures in response to the pandemic:
 - liquidity injection to help firms weathering the storm.

Backup slides

Controls

Main issue: credit constraints may simply capture financial fragility.

- We control for observable fundamentals and matched firm-bank information:
 - indicators of financial fragility:
 - Z-score, liquidity, leverage, cash flow, sales growth, tangible assets, trade credit;
 - informational opaqueness:
 - age, size;
 - observable proxies of relationship lending:
 - N of banks, length of the relationship, geographical proximity;
 - Lender observable and unobservable characteristics (banks' financial condition and lending practices):
 - several banks' balance-sheet ratios, lender banks' fixed effects;
 - Other characteristics: Group, Family firm, Import, Export, R&D, Graduated employees.

Validation

- Firms' expectations have sizable predictive power on realized outcomes (even more so in the sovereign-debt crisis).
- In the 2008–2019 series, correlation of 0.72 between aggregate realized (ex post) and expected (ex ante) sales.
- Overall: expectations are informative about the future dynamics of the actual variables and this is especially true in times of crisis.
- Actual choices still based on current information set (independently of the accuracy).

Accuracy

Dependent Variable:	Realized sales growth (categorical)					
		Panel A: fu	ill samp	le 2008-201	9	
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{E}_{i,t-1}(\text{Sales}^g 1Y)$: Very Negative		-7.102***		-6.495^{***}		-2.678***
		[0.0877]		[0.131]		[0.0375]
$\mathbb{E}_{i,t-1}(\text{Sales}^g 1 Y)$: Negative		-2.240***		-1.572***		-1.059***
		[0.0569]		[0.0820]		[0.0216]
$\mathbb{E}_{i,t-1}(\text{Sales}^g 1Y)$: Positive		2.569***		1.986***		1.344***
-,,		[0.0436]		[0.0639]		[0.0170]
$\mathbb{E}_{i,t-1}(\text{Sales}^g 1Y)$: Very Positive		7.028***		5.537***		3.038***
-1,6-1([0.110]		[0.167]		[0.0470]
Time FE	~	·	~	· .	~	
Province FE	\checkmark	~	X	X	~	~
Industry (2 Digit) FE	\checkmark	~	X	х	~	✓
Firm FE	х	x	✓	~	x	x
Estimator		OLS	Within		Ordered Logit	
R-squared (Pseudo R2)	0.039	0.210	0.034	0.140	(0.017)	(0.105)
N obs.	91540	91540	91540	91540	91540	91540
	Pane	el B: soverei	gn-debt	crisis only	(2011)	
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{E}_{i,t-1}$ (Sales1Y): Very Negative		-10.56^{***}		-		-4.457***
		[0.164]		-		[0.0985]
$\mathbb{E}_{i,t-1}$ (Sales1Y): Negative		-2.009***		-		-1.240***
		[0.128]		-		[0.0602]
$\mathbb{E}_{i,t-1}$ (Sales1Y): Positive		2.698^{***}		-		1.735^{***}
		[0.110]		_		[0.0542]
$\mathbb{E}_{i,t-1}$ (Sales1Y): Very Positive		5.590***		-		3.331***
		[0.404]		-		[0.231]
Province FE	~	· /	Х	х	~	· · ·
Industry (2 Digit) FE	1	\checkmark	X	X	 ✓ 	~
Estimator		OLS		-	Order	ed Logit
Estimator R-squared (Pseudo R2)	0.012	OLS 0.345	-		Order (0.005)	$\frac{\text{red Logit}}{(0.155)}$

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Forecast error and credit constraints

Dependent variable:	For	ecast error: R	tealized-Expe	cted
	(1)	(2)	(3)	(4)
Credit constrained	0.0361	0.0384	0.00887	0.00893
	[0.0303]	[0.0303]	[0.0325]	[0.0327]
Size	0.0311***	0.0359***	0.0376***	0.0403***
	[0.00944]	[0.0101]	[0.00933]	[0.0102]
Age	-0.115^{***}	-0.122***	-0.0242	-0.0299
	[0.0265]	[0.0267]	[0.0217]	[0.0219]
Z-score	18.92***	23.32*	0.634	41.70***
	[7.156]	[14.00]	[1.653]	[12.92]
Liquidity		0.122***		0.00245
		[0.0475]		[0.0425]
Cash flow		-0.0103		-0.0340
		[0.0179]		[0.0598]
Tangible		0.0930		0.267^{**}
		[0.127]		[0.121]
Trade credit		0.206		-0.390*
		[0.197]		[0.205]
Region FE	~	~	~	✓
Industry (2 Digit) FE	\checkmark	\checkmark	\checkmark	\checkmark
Def of constrained	2013	2013	2015	2015
R-squared	0.033	0.035	0.029	0.032
N obs.	5360	5360	5640	5640

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Alternative estimators: propensity score matching

- Match firms that are observationally similar, but with a different credit-constrained status.
- Compare the different outcomes of constrained and unconstrained firms to infer the causal effect of financial frictions.

Outcome:	F	$E_{i,t}(Sales^g 1Y)$)	$\mathbb{E}_{i,t}(\mathbb{P}^g)$			
Abadie and Imbens (2002)	N=1	N=2	N=3	N=1	N=2	N=3	
Credit constrained	-0.120**	-0.124^{***}	-0.122***	1.404**	1.373**	1.123**	
	[0.0502]	[0.043]	[0.0406]	[0.692]	[0.604]	[0.575]	
Outcome:	F	$E_{i,t}(Sales^g 1Y)$)	$\mathbb{E}_{i,t}(\mathbb{P}^g)$			
Radius Matching (std)	$0.1 \ \mathrm{std}$	$0.25 \ \mathrm{std}$	$0.5 \ \mathrm{std}$	$0.1 \mathrm{std}$	$0.25 \ \mathrm{std}$	$0.5 \ \mathrm{std}$	
Credit constrained	-0.145^{***}	-0.175^{***}	-0.204***	0.986^{*}	1.125^{**}	1.178^{**}	
	[0.0393]	[0.0382]	[0.0377]	[0.560]	[0.556]	[0.554]	

Matching balancing properties

	Unmatched	Me	ean		% Reduct.	t-	test
Variable	Matched	Treated	Control	% Bias	Bias	t	$p > \mid t \mid$
7	U	-0.169	0.104	-70.3		-15.61	0.000
z-score	м	-0.166	-0.167	0.3	99.5	0.07	0.941
<u></u>	U	7.537	7.867	-19.5		-4.61	0.000
Size	Μ	7.547	7.582	-2.1	89.4	-0.38	0.706
A ===	U	2.893	3.018	-14.5		-3.52	0.000
Age	м	2.899	2.881	2.2	85.1	0.38	0.702
Liquidity	U	-0.0519	0.142	-41.9		-10.78	0.000
Liquidity	Μ	-0.0238	-0.005	-4.1	90.1	-0.81	0.420
Cash Association	U	-0.0273	0.0336	-37.6		-10.84	0.000
Cash now	Μ	-0.0195	-0.0179	-0.9	97.5	-0.13	0.900
Tangible	U	0.227	0.212	7.0		1.75	0.080
	Μ	0.226	0.219	3.1	55.6	0.53	0.596
The de andit	U	-0.110	-0.123	8.0		1.94	0.053
Trade credit	м	-0.111	-0.119	5.6	29.7	1.00	0.317
Decential	U	0.600	0.663	-13.2		-3.22	0.001
Essential	м	0.601	0.616	-3.1	76.2	-0.56	0.573
Four out	U	0.320	0.390	-14.7		-3.48	0.001
Export	M	0.324	0.299	5.1	65.5	0.95	0.342
Import	U	0.265	0.313	-10.5		-2.49	0.013
Import	Μ	0.268	0.269	-0.3	96.8	-0.06	0.951
Rt-D	U	0.289	0.318	-6.4		-1.52	0.130
R&D	м	0.292	0.297	-1.0	84.5	-0.18	0.856
Group	U	0.135	0.177	-11.8		-2.72	0.006
Group	м	0.133	0.132	0.4	96.5	0.08	0.935
	II	0.698	0.642	11.0		2.83	0.005
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VID-19 and Credit Constraint

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Interpretation of the credit-constrained variable

- Why past credit-constrained status is so important for expectations and plans?
- We investigate the determinants of considering credit access as one of the firms' major concerns in the aftermath of the pandemic outbreak
- Same empirical exercise, but different dependent variable

Post-COVID concerns: credit access

Dependent Variable:	Post-	COVID-19 cr	edit access con	ncerns
	(1)	(2)	(3)	(4)
Credit constrained	0.227***	0.198***	0.216***	0.219***
	[0.0340]	[0.0294]	[0.0269]	[0.0249]
Essential	-0.00192	0.00340	0.0136	0.0158
	[0.0269]	[0.0247]	[0.0210]	[0.0166]
Z-score	-0.0199***	-0.274^{*}	-0.159	-0.195
	[0.00478]	[0.155]	[0.118]	[0.135]
Size	0.000546	-0.0260	-0.0300*	-0.0231
	[0.0140]	[0.0180]	[0.0172]	[0.0170]
Age	0.0168	0.0215	-0.0141	-0.0136
	[0.0173]	[0.0160]	[0.0138]	[0.0229]
Group	-0.0562^{***}	-0.0571^{***}	-0.0530***	-0.0810***
	[0.0126]	[0.0116]	[0.00908]	[0.00932]
Family firm	0.00816	0.00651	0.0346^{*}	0.0240
	[0.0183]	[0.0186]	[0.0185]	[0.0212]
Liquidity		-0.326***	-0.380***	-0.324***
		[0.0354]	[0.0351]	[0.0377]
Leverage		-0.151	-0.0503	-0.0829
		[0.114]	[0.0845]	[0.104]
Cash flow		1.970*	1.162	1.395
		[1.121]	[0.853]	[0.989]
Tangible		-0.00511	-0.0669**	-0.0815**
		[0.0414]	[0.0287]	[0.0326]
Trade credit		-0.00878	0.0753^{*}	0.0229
		[0.0449]	[0.0425]	[0.0402]
Lending Relationship (Years)			0.0661***	0.0625^{***}
			[0.0130]	[0.00524]
N of Lender Banks			-0.0216^{***}	-0.0173*
			[0.00827]	[0.00884]
Distance with lender bank			0.0261*	0.0693**
			[0.0154]	[0.0311]

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COVID-19 and Credit Constraint

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Measures adopted in response to Covid outbreak



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Credit-constrained status and actions

Dependent variable:	Teleworking	Employment reduction	Hours reduction
	(1)	(2)	(3)
Credit constrained	-0.102***	0.117***	0.113***
	[0.0241]	[0.0302]	[0.0106]
Age	-0.0134	-0.0265***	0.0142
	[0.0115]	[0.00449]	[0.0142]
Group	0.156***	-0.0142	-0.0681***
	[0.0254]	[0.0125]	[0.0190]
Family_firm	-0.0166	-0.0555***	-0.0329***
	[0.0138]	[0.00915]	[0.0104]
Z-score	-0.00589	-0.00750	-0.0158***
	[0.00420]	[0.0172]	[0.00452]
Liquidity	0.352***	0.0660**	0.0442
	[0.0389]	[0.0328]	[0.0482]
Leverage	0.110***	-0.0619*	-0.00320
	[0.0330]	[0.0369]	[0.0348]
Cash flow	-0.112	0.160	0.414***
	[0.0903]	[0.102]	[0.0422]
Tangible	-0.186***	0.0861	0.0964**
	[0.0313]	[0.0552]	[0.0419]
Trade credit	0.191***	-0.174***	-0.0558*
	[0.0672]	[0.0448]	[0.0304]