Supervisory Policy Stimulus:

Evidence from the Euro Area

Dividend Recommendation

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ECB Dividend Recommendations

- At the outset of Covid-19, banking supervisors took measures recommending banks to conserve capital

- In the euro area, the ECB issued three dividend [recommendations](#) (DRs) following the outbreak of the pandemic:

> *"Therefore, it was considered essential that credit institutions **conserve capital** to retain their capacity **to support the economy** in an environment of heightened uncertainty caused by the COVID-19 pandemic. To this end, **preserving capital resources to support the real economy and absorb losses** was deemed to be a priority over discretionary dividend distributions and share buy-backs."*

- **The recommendation is unprecedented**: a specific type of discretionary *soft* law measure
- Euro area banks followed it fully except few banks due to already pre-committed distributions
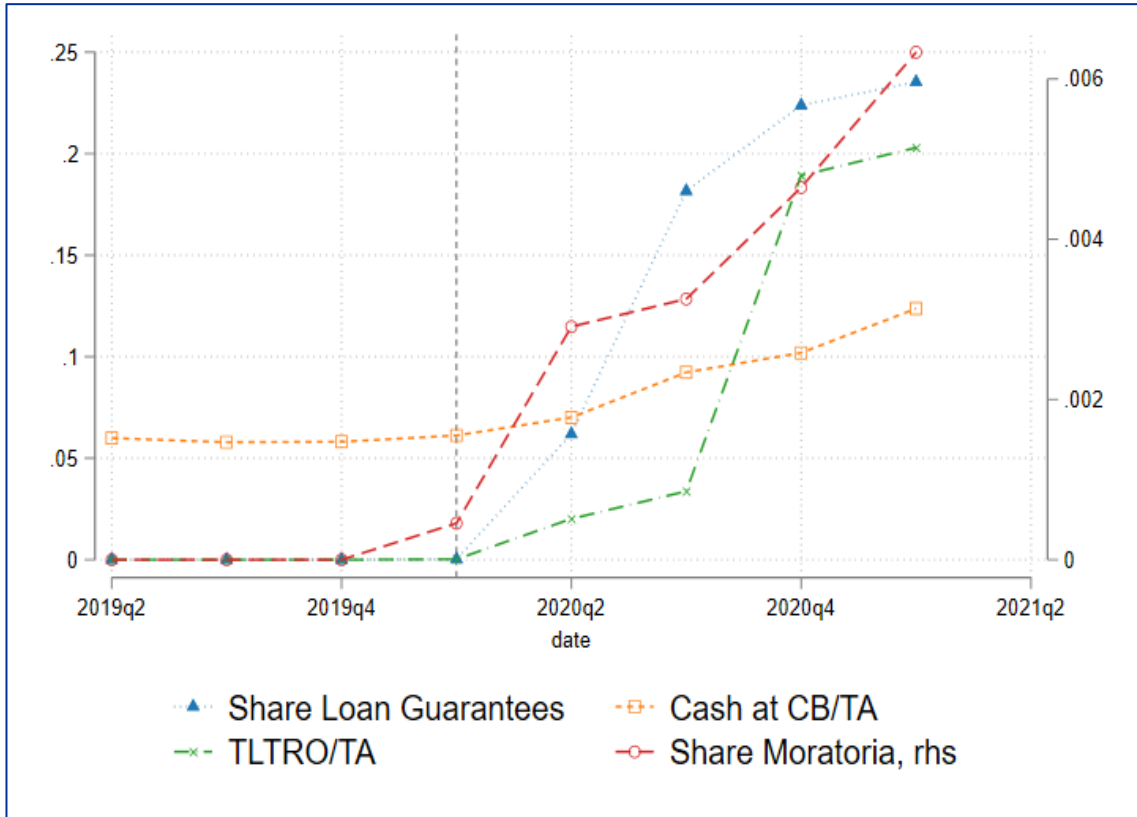
What we do…
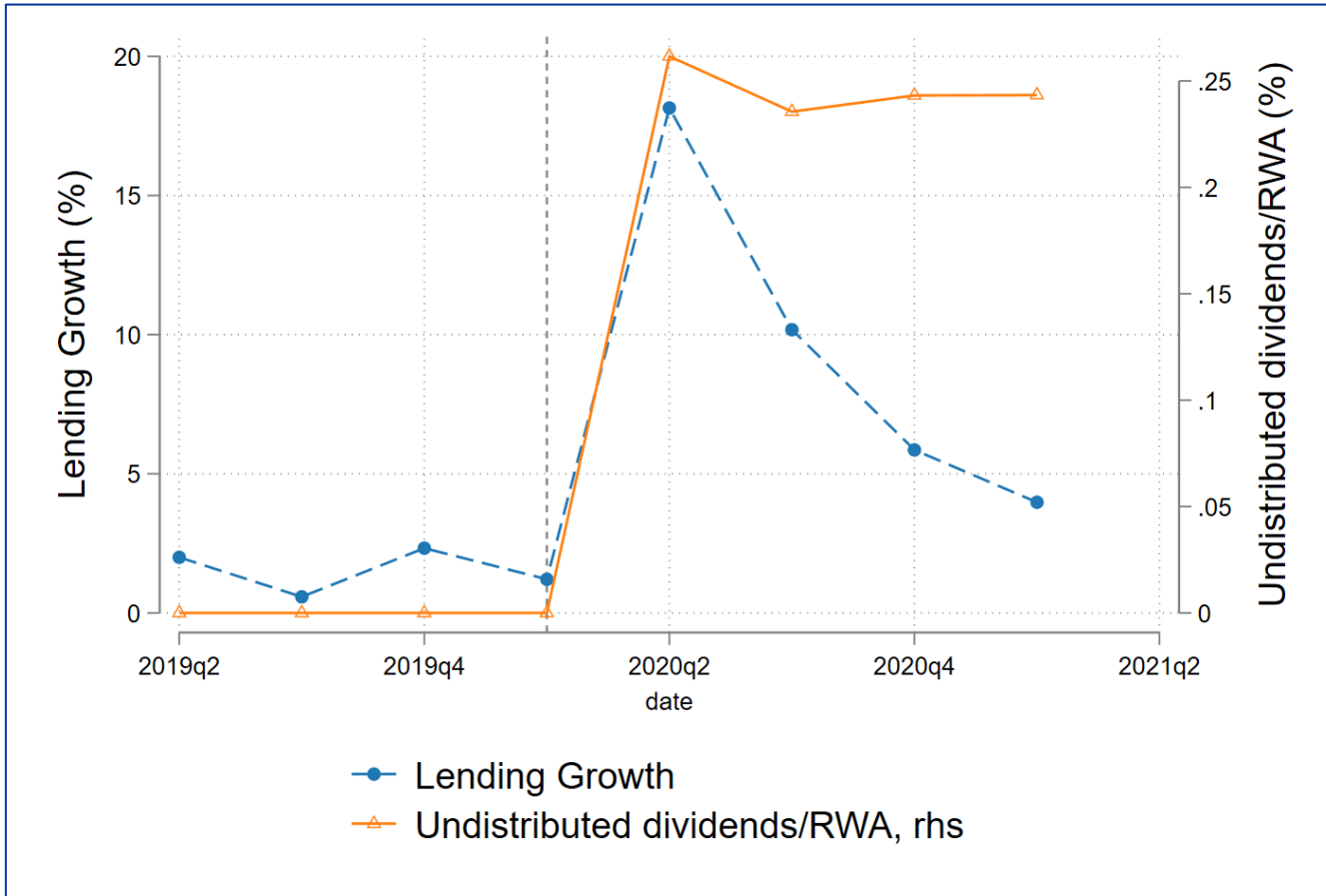
Note: The chart illustrates the spike in credit growth and the planned but non-distributed dividends as a share of RWAs (rhs). Lending growth is the percentage change from previous quarter, while planned but undistributed dividends are in percent of risk-weighted assets (RWAs). The dashed vertical line is at 2020Q1, the time of the ECB dividend recommendation. Source: ECB supervisory survey on dividend plans and supervisory reporting.

- Perform an **impact assessment** of the **role** of the **DR** on:
    i. Lending growth to NFCs,
    ii. Credit allocation across firms in different sectors,
    iii. Risk-taking by banks
- Identification facilitated by the **cross-sectional variation in compliance** with the policy (treated vs. non-treated banks)
- Must net out effects on credit growth of simultaneous monetary & fiscal policies
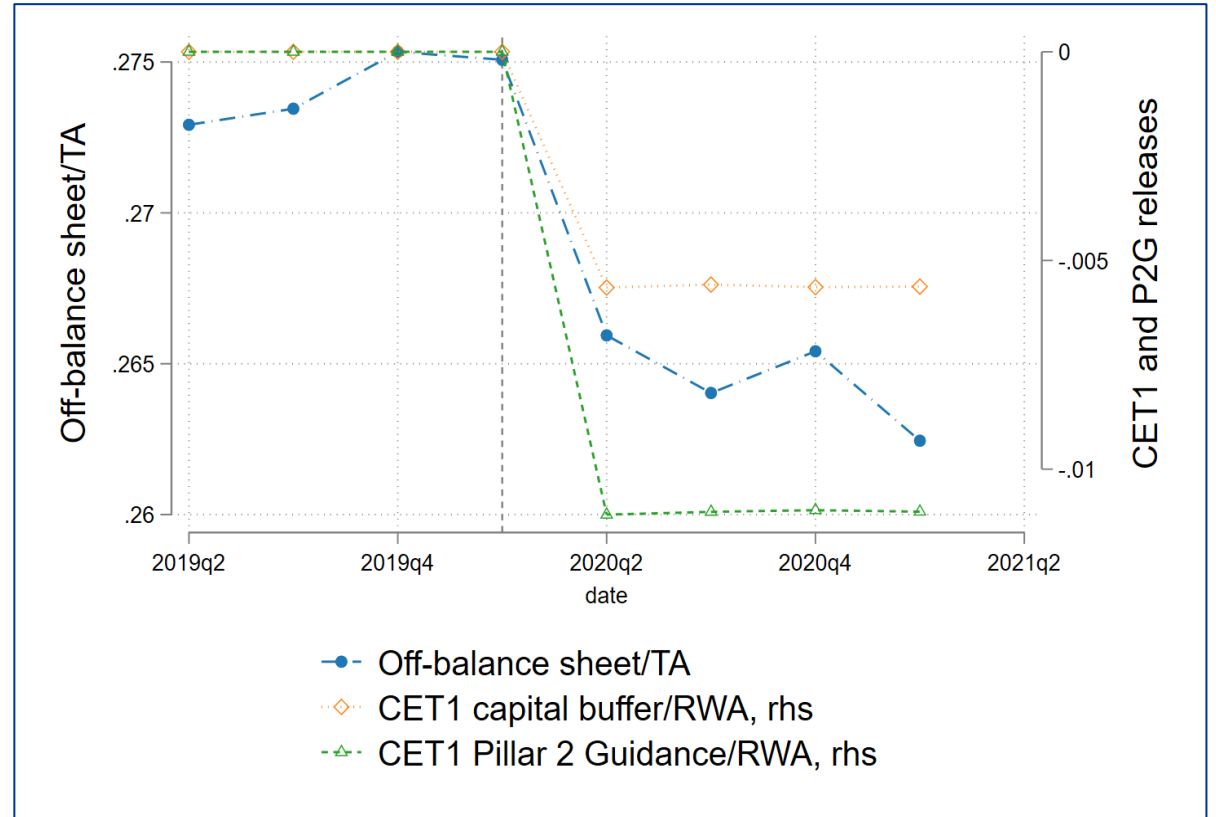
Confounding effects

- **Fiscal policy measures** (guarantees & moratoria)
- **Unconventional monetary policy** (APPs, TLTRO)

- **Off-balance sheet exposures** (credit line drawdowns)
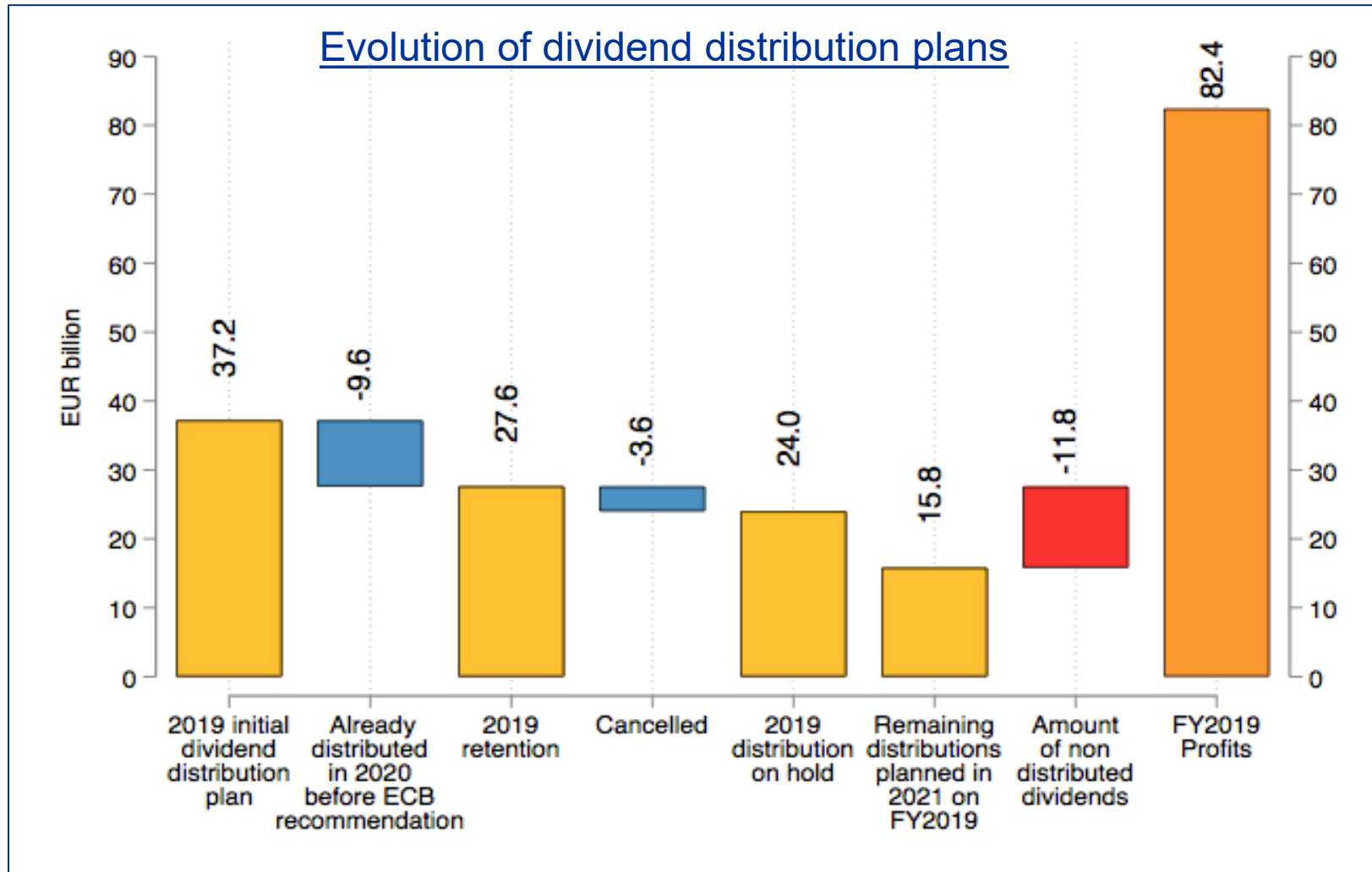- **Capital buffer and guidance releases** (CBR, P2G)

Note: the chart shows the timeline of the main variables capturing the variation stemming from monetary and fiscal policy measures aimed at sustaining credit growth. The dashed vertical line is at 2020Q1. The share of debt repayment moratoria (rhs) and loan guarantees are sample averages of the shares in total loans aggregated at bank-firm level. Cash at CB/TA is the ratio of cash and cash held at the central bank to total asset and is a proxy for ECB asset purchases. TLTRO is the ratio of TLTRO III uptake over total assets at bank level. Source: Anacredit, ECB supervisory and monetary policy reporting. Authors calculations.

Note: the chart shows the reduction in off-balance sheet exposures over total assets, and releases of CET1 regulatory capital buffer and CET1 Pillar 2 Guidance over RWA. Off-balance sheet exposures (notably drawn credit lines) when they are moved to the balance sheet increase lending mechanically. Capital releases instead give regulatory space to banks to issue loans without breaching regulatory requirements. The dashed vertical line is at 2020Q1. Source: ECB supervisory reporting. Authors calculations.

The dividend plans data

Evolution of dividend distribution plans

Bar chart values (EUR billion):
- 2019 initial dividend distribution plan: 37.2
- Already distributed in 2020 before ECB recommendation: -9.6
- 2019 retention: 27.6
- Cancelled: -3.6
- 2019 distribution on hold: 24.0
- Remaining distributions planned in 2021 on FY2019: 15.8
- Amount of non distributed dividends: -11.8
- FY2019 Profits: 82.4

- Collected by **SSM confidential surveys** in the course of '20 with dividend distributions plans **before/after** the policy

- **Finest data source** to identify the effects of the DR

- **Pay-out ratio**: 45-57%

- In Sept. 2020, non-distributed dividends amounted to **€11.8 bn**

- If all €11.8 bn used to supply lending, can finance up to **€140 bn** in new assets to the real economy

Note: The graph plots the aggregate evolution of dividend distribution plans by significant institutions (SIs) in the euro area as of March 2020. The amount of non-distributed dividends is the red area, i.e. difference between the 2019 retention and the remaining distribution planned in 2021 from fiscal year 2019 (FY'19) profits. Source: SSM survey on banks' intentions on profits distribution.

Distribution of Non-Distributed Dividends NDD / RWA

$$Treat_b = \frac{Dividends\ (Plan_{FY19} - Distr_{20})_b}{RWA_b} = \frac{NDDb}{RWA_b}$$

Unconditional distribution of NDD / RWA
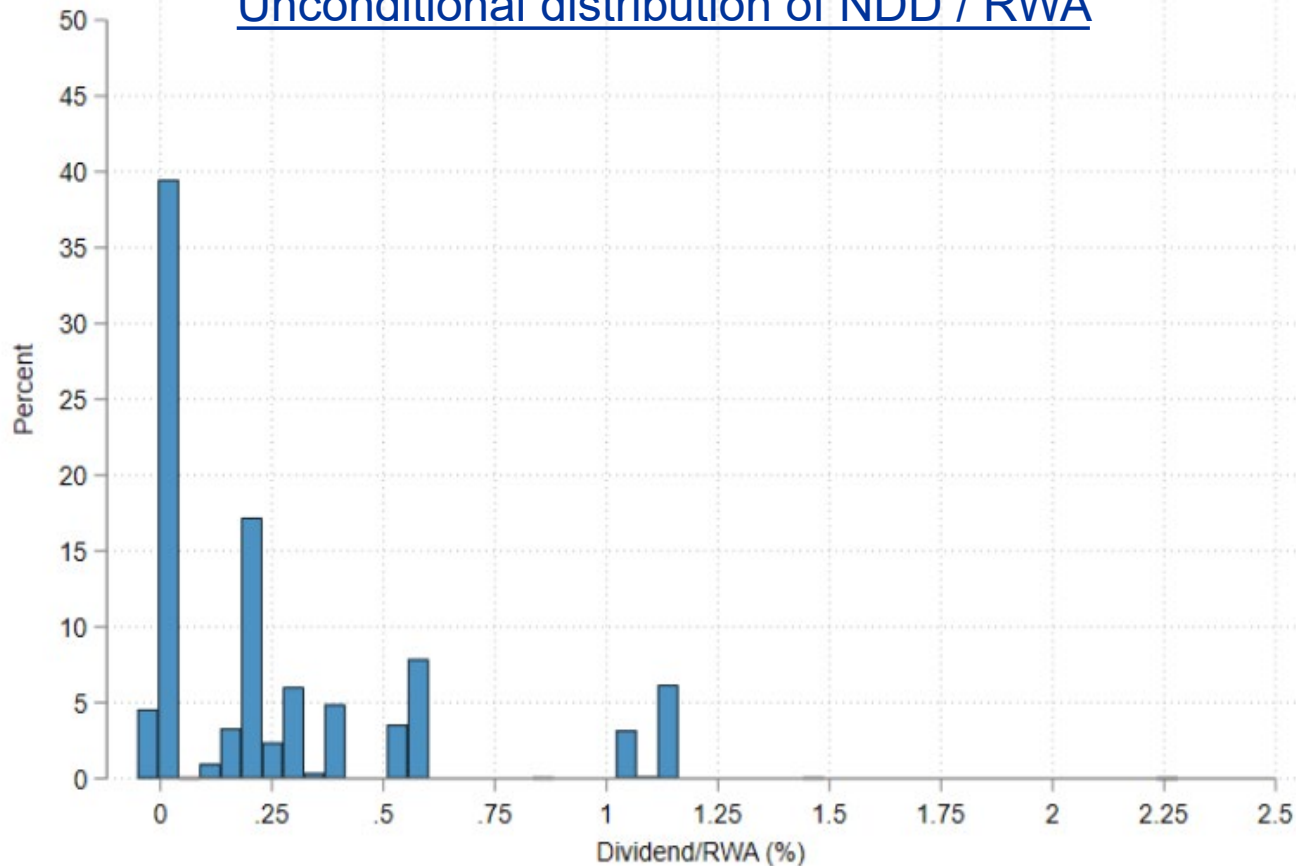
Note: This graph plots the distribution of Dividends/RWA for the sample 99 banks employed throughout the analysis. Dividend/RWA is the ratio of dividend planned in 2019 but not distributed in 2020 divided by risk weighted assets. Source: ECB banking supervision survey on dividend distribution plans.

- **NDD / RWA** is a **risk-based measure** of capital relief akin to CET1 cap. req.

- ~60% of bank-firm-year **observations** have positive distribution plans that were not followed **>>> Treatment group**

- ~40% of bank-firm-year observations spike at 0 **>>> Control group**

- NDD /RWA **unconditional average:** 0.25%

- **Conditional** on 53 treated banks 0.47% >> sizeable **new** capital amount!

- **Banks breakdown:**
  - **75 banks** were planning dividend payments
  - **53** did not pay anything
  - **1** bank distributed more than planned
  - **11** banks distributed all they planned

Key results

- **Average treatment effect on lending growth is 4.4 p.p. for a 1 p.p. increase in NDD/RWA**

  I. Stronger for **SMEs**: +7.1 p.p. vs. large firms (+4.4 p.p.)

  II. Stronger for **Covid-19 vulnerable sectors**: +5.7 p.p. vs. non-vulnerable ones (+2.8 p.p.)

  III. Stronger for **loans subject to gov. guarantees** (+7.3 p.p.)

  IV. However, **non-guaranteed credit growth** is also positively affected (+1.9 p.p)

  V. Effects **mostly short-term**, vanish in '20 Q4 >> consistent with temporary nature of policy

- **Banks' risk aversion is evident:**

  i. No effects for **single-bank-relationship firms** (micro and small enterprises: riskier, low collateral and econ. of scale)

  ii. No lending to **zombie firms** (impairments > p.95 within bank-firm relationship)

  iii. Stronger lending by banks with **structurally low NPLs**

  iv. No lending by banks with **low capital space** (capital constraints are still binding)

Policy implications 1/2

- **DRs can reinforce effectiveness of countercyclical policies in a downturn:**
  - We find strong **complementarity** with government guarantees (fiscal policy)
  - But DR should be used as complement to other measures, **not substitute** them!

- **Temporary nature of DRs necessary to limit unintended effects:**
  - **Clear communication** on duration, clear justification: **forward guidance**
  - If not, **financial stability** can be **undermined**

- **DRs can increase solvency and loss absorption capacity:**
  - NDDs **new, permanent capital**: loss absorption capacity ↑ or **=**
  - Buffer releases **do not** increase capital: loss absorption capacity ↓ or **=**
  - Tail risk: in case of bail-in, **debtholders** and eventually taxpayers **take a lower hit**

Policy implications 2/2

- **DRs complement and address some of the concerns to buffer releases/usability:**
  - Buffer releases can be **(mis)used** to distribute more dividends (Imbierowicz et al. 2018)
  - DRs would **eliminate** this **unintended effect**
  - **Stigma effects** of rule-based restrictions can be reduced > But this is still not clear

- **DRs can move resources from inefficiently(?) high shareholder consumption to credit**
  - Investor consumption excessively sensitive around distribution dates (Bauer et al. 2022):
  - … which is likely to have higher multiplier than consumption in a downturn > banks benefit

- **DRs are the new kid on the block:**
  - There is a new effective and **proven countercyclical policy tool**
  - Should supervisors systematically use DRs in a countercyclical way? Perhaps not, but if buffers are released…

Thank you!

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Annexes

Annex - Empirical design

$$Credit\ growth_{fbt} = \alpha + \beta_2 \left.\frac{Dividends}{RWA}\right|_{bt} + \beta_3 X_{bt-1} + \beta_4 Z_{fbt-1} + [\eta_{ft}] + [\rho_b] + [\varphi_{ilst}] + \epsilon_{fbt}$$

- **Time frame**: '19Q1 – '21Q1

- **Data:**
    - i.   Euro area wide credit registry (AnaCredit)
    - ii. Covid-19 reporting on moratoria and guarantees
    - iii. ECB data on TLTROs
    - iv. COREP/FINREP data on bank balance sheets
    - v.   SSM surveys on bank dividend distribution plans

- X_{bt-1} **bank-specific characteristics**: TA, NIM, NPLs, Off-bal. exposure, Mkt debt / TA, RWA/TA, distance to MDA.
    - ➤ It includes also controls for monetary policies (i.e. **TLTRO3** & cash at CB as proxy for **APPs,**)
- Z_{bft} **fiscal policy measures**: share of loans with moratoria and guarantees

- μ_{ft} **firm-time FE** capturing time-variant firm level changes, notably credit demand á la Khwaja and Mian (2008)

- γ_b **time-invariant bank FE** (i.e., business model, parent location etc.)

- φ_{ilst} **industry-location-size-time FE**, robustness including firms with a single bank relationship

Annexes – Empirical Results

Baseline

Full baseline in annex

Strictly positive dividend plans

	(1) Lending growth	(2) Lending growth	(3) Lending growth	(4) Lending growth	(5) Lending growth	(6) Lending growth
Dividends / RWA	4.311*** (0.920)	4.444*** (1.047)	4.169*** (0.837)	4.368*** (1.036)	2.234*** (0.841)	2.823*** (0.995)
Medium firms × (Dividends / RWA)			2.052*** (0.577)	1.636*** (0.476)		
Small firms × (Dividends / RWA)			2.678*** (0.775)	1.811*** (0.614)		
Micro firms × (Dividends / RWA)			-1.000 (0.955)	-1.652** (0.842)		
Vulnerable Sector × (Dividends / RWA)					2.882*** (0.509)	2.216*** (0.497)
Policy controls:						
Cash at CB / TA	0.111* (0.061)	-0.013 (0.103)	0.106 (0.068)	-0.008 (0.109)	0.109* (0.061)	-0.012 (0.103)
Share of Debt Repayment Moratoria	0.024* (0.015)	0.002 (0.007)	0.022 (0.016)	0.000 (0.008)	0.024 (0.015)	0.002 (0.007)
Share of Loan Guarantees	0.368*** (0.032)	0.379*** (0.031)	0.373*** (0.032)	0.376*** (0.032)	0.368*** (0.032)	0.371*** (0.031)
TLTRO 3	0.186*** (0.045)	0.206*** (0.064)	0.195*** (0.046)	0.217*** (0.066)	0.186*** (0.045)	0.206*** (0.064)
Observations	6,360,304	6,360,304	5,806,988	5,806,988	6,360,304	6,360,304
N. Banks	99	99	99	99	99	99
N. Firms	541,183	541,183	483,069	483,069	541,183	541,183
Bank controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm * time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	No	Yes	No	Yes	No	Yes

Signif. Levels: ***: 0.01, **: 0.05, *: 0.1. Std. errors in parenthesis derived from two-way clustered standard errors at bank and firm levels.

Interactions with guarantees

Dep.var.: Lending Growth$_{bft}$	Guarantees		Distance MDA	
	(1)	(2)	(3)	(4)
(Dividends/RWA)$_{bt}$	1.480	1.878	5.101	6.490
	(0.090)*	(0.098)*	(0.000)***	(0.000)***
(Share of Loan Guarantees)$_{bft} > 0$	0.312	0.315		
	(0.000)***	(0.000)***		
(Share of Loan Guarantees)$_{bft} > 0 \times (Dividends/RWA)_{bt}$	5.436	5.379		
	(0.009)***	(0.016)**		
Distance MDA$_{bt}$ =< p25			0.003	
			(0.721)	
Distance MDA$_{bt}$ =< p25 $\times (Dividends/RWA)_{bt}$			-5.797	-7.292
			(0.007)***	(0.017)**
Observations	6,359,243	6,359,243	6,359,243	6,359,243
N. Banks	99	99	99	99
N. Firms	541,138	541,138	541,138	541,138
Bank and bank-firm controls	Yes	Yes	Yes	Yes
Firm * time FE	Yes	Yes	Yes	Yes
Bank FE	No	Yes	No	Yes

Note: ***: 0.01, **: 0.05, *: 0.1. P-values in parenthesis are derived from two-way clustered standard errors at both bank and firm levels. The dependent variable is the growth in the stock of debt (Lending growth). The exogenous variables include the ratio of dividend planned in 2019 but not distributed in 2020 to risk weighted assets (Dividends/RWA); a dummy variable that takes the value 1 if a bank has granted a loan that is partially or fully pledged by a government guaranteed scheme, and 0 otherwise (Share of Loan Guarantees > 0). Control variables are specified in Equation 1.

Main takeaways:

1) Dividend recommendation supported bank lending also in the absence of government guarantees.

2) Guarantees however did the heavy lifting

3) Government guarantees and dividend suspension acted as complements in supporting lending growth

4) Banks close to the MDA trigger refrained from lending

5) Possible they used the funds to accumulate capital or LLPs (see Dautovic et al 2021)

Bank risk-taking

Dep.var.: Lending Growth$_{bft}$	Impaired Firms		Zombie Firms		Impaired, Zombie Firms		High NPL Banks	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(Dividends/RWA)$_{bt}$	2.543	2.663	3.115	2.952	3.057	3.678	3.815	3.272
	(0.001)***	(0.041)**	(0.000)***	(0.011)**	(0.000)***	(0.004)***	(0.000)***	(0.000)***
$p25 < \text{impaired}_f(19Q4) < p95$	-0.008	-0.008			-0.008	-0.008		
	(0.000)***	(0.000)***			(0.000)***	(0.000)***		
$p25 < \text{impaired}_f(19Q4) < p95 \times (Dividends/RWA)_{bt}$	0.671	0.100			0.1522	-0.892		
	(0.194)	(0.858)			(0.767)	(0.060)*		
Zombie$_f$			0.004	0.006	-0.003	-0.001		
			(0.596)	(0.447)	(0.699)	(0.904)		
Zombie$_f \times (Dividends/RWA)_{bt}$			-2.545	-3.774	-2.509	-4.606		
			(0.057)*	(0.007)***	(0.065)*	(0.002)***		
NPL$_{bt} < p50$							0.015	
							(0.054)*	
NPL$_{bt} < p50 \times (Dividends/RWA)_{bt}$							2.772	7.769
							(0.288)	(0.001)***

Signif. Levels : ***: 0.01, **: 0.05, *: 0.1. P- values in parenthesis derived from two-way clustered standard errors at bank and firm levels.

1. **Effects are marginally lower for banks with accumulated impairments** (p25-p95 range)
2. More problematic **zombie borrowers do not benefit** from the policy
3. **Effects are stronger for banks with structurally better NPL ratio** (i.e. high NPL banks increased capital and LLPs)

Note: *zombie firms* are defined as being those above the p95 of accumulated impairments as of 2019Q4 (34'826 firms and 233'214 obs. in the regressions)

Persistence

Table 5: Results interaction with quarterly dummies

| Dependent Variable: | Lending Growth | |
Model:	(1)	(2)
Dividends/RWA ×2020Q2	3.793	2.452
	(0.079)*	(0.357)
Dividends/RWA ×2020Q3	12.977	11.415
	(0.001)***	(0.001)***
Dividends/RWA ×2020Q4	1.995	1.058
	(0.221)	(0.527)
Observations	6,359,243	6,359,243
N. Banks	99	99
N. Firms	541'138	541'138
Bank and bank-firm controls	Yes	Yes
Firm * time FE	Yes	Yes
Bank FE	No	Yes

Signif. Levels : ***: 0.01, **: 0.05, *: 0.1. Std. errors in parenthesis derived from two-way clustered standard errors at bank and firm levels.

- The effect of the ECB dividend recommendation is mostly short-term, vanishes in '20Q4

- concentrated in '20Q3

- Dividend recommendation was initially planned to remain in place only until the 1st Oct. '20, it was extended in Jul. '20 until at least Jan. '21

- Only then banks deployed the additional capital to loans

Single relationships and Industry Location Size (ILS)

Table 6: Robustness: Industry-location-size fixed effects and inclusion of single bank relationship firms

Dependent Variable:	Lending Growth					
	(1)	(2)	(3)	(4)	(5)	(6)
Dividends/RWA	2.943	2.711	3.711	3.514	1.179	1.007
	(0.006)***	(0.082)*	(0.000)***	(0.001)***	(0.098)*	(0.486)
Medium firms ×Dividends/RWA			1.727	1.436		
			(0.003)***	(0.002)***		
Small firms ×Dividends/RWA			2.299	1.628		
			(0.008)***	(0.010)***		
Micro firms ×Dividends/RWA			-2.088	-2.590		
			(0.060)*	(0.023)**		
Vulnerable Sectors ×Dividends/RWA					2.704	2.036
					(0.000)***	(0.003)***
Observations	11,362,178	11,362,178	11,362,178	11,362,178	11,362,178	11,362,178
N. Banks	99	99	99	99	99	99
N. Firms	1,463,993	1,463,993	1,463,993	1,463,993	1,463,993	1,463,993
Bank and bank-firm controls	Yes	Yes	Yes	Yes	Yes	Yes
ILS*time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	No	Yes	No	Yes	No	Yes

Signif. Levels : ***: 0.01, **: 0.05, *: 0.1. Std. errors in parenthesis derived from two-way clustered standard errors at bank and firm levels.

- Shortcoming of the Khwaja and Mian (2008) is the exclusion of firms with only one **bank relationships**
- The **ILS FE approach** allows to include also single bank-firm relationships in the panel.

- Results are still statistically significant when single bank relationships are included
- Estimates are however ~30% lower driven by the non-significant effect of firms with a single relationship
- ILS FE on a multi-relationship sample has same magnitudes of estimates as baseline

Note: *the ILS FE is formed by the interaction of industry (4-digit NACE) – location (2-digit postal code) – size (4 categories)*

Annex – Full baseline

Table 2: Baseline Estimates: Dividends and Lending with firm size and vulnerable sectors

Dep.var.: Lending Growth$_{bft}$	Baseline		Firm Size		Vulnerable Sectors	
	(1)	(2)	(3)	(4)	(5)	(6)
(Dividends/RWA)$_{bt}$	4.311 (0.000)***	4.444 (0.000)***	4.169 (0.000)***	4.368 (0.000)***	2.234 (0.009)***	2.823 (0.006)***
Medium ent. × (Dividends/RWA)$_{bt}$			2.052 (0.001)***	1.636 (0.001)***		
Small ent. × (Dividends/RWA)$_{bt}$			2.678 (0.001)***	1.811 (0.003)***		
Micro ent. × (Dividends/RWA)$_{bt}$			-1.000 (0.293)	-1.652 (0.037)**		
Vulnerable sectors × (Dividends/RWA)$_{bt}$					2.882 (0.000)***	2.216 (0.000)***
Ln(TA)$_{bt-1}$	0.006 (0.039)**	-0.169 (0.104)	0.005 (0.080)*	-0.192 (0.082)*	0.005 (0.045)**	-0.171 (0.101)
(Mkt debt funding/TA)$_{bt-1}$	-0.053 (0.196)	-0.212 (0.433)	-0.056 (0.224)	-0.120 (0.680)	-0.057 (0.163)	-0.211 (0.436)
(RWA/TA)$_{bt-1}$	-0.014 (0.774)	-0.516 (0.043)**	-0.019 (0.725)	-0.535 (0.040)**	-0.019 (0.706)	-0.522 (0.041)**
(NIM annualised)$_{bt-1}$	3.711 (0.000)***	2.442 (0.142)	3.936 (0.000)***	2.479 (0.159)	3.751 (0.000)***	2.413 (0.147)
(NPL ratio)$_{bt-1}$	0.169 (0.019)**	0.291 (0.197)	0.161 (0.027)**	0.270 (0.235)	0.171 (0.018)**	0.290 (0.199)
(CET1 MDA Distance)$_{bt-1}$	0.452 (0.000)***	1.867 (0.000)***	0.480 (0.000)***	1.913 (0.000)***	0.446 (0.000)***	1.854 (0.000)***
(Cash/TA)$_{bt-1}$	0.111 (0.069)*	-0.013 (0.890)	0.106 (0.114)	-0.008 (0.932)	0.109 (0.075)*	-0.012 (0.894)
(Provisions/TA)$_{bt-1}$	-0.078 (0.921)	10.865 (0.005)***	-0.203 (0.810)	11.349 (0.004)***	-0.080 (0.919)	10.809 (0.006)***
(Share Debt Moratoria)$_{bft}$	0.024 (0.083)*	0.002 (0.729)	0.022 (0.135)	0.000 (0.948)	0.024 (0.082)*	0.002 (0.718)
(Share Loan Guarantees)$_{bft}$	0.368 (0.000)***	0.370 (0.000)***	0.373 (0.000)***	0.376 (0.000)***	0.368 (0.000)***	0.371 (0.000)***
(TLTRO/TA)$_{bt-1}$	0.186 (0.000)***	0.206 (0.001)***	0.195 (0.000)***	0.217 (0.001)***	0.186 (0.000)***	0.206 (0.001)***
(Off-balance sheet/TA)$_{bt-1}$	-0.035 (0.133)	0.077 (0.474)	-0.039 (0.120)	0.105 (0.281)	-0.035 (0.137)	0.076 (0.478)
Firm-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	No	Yes	No	Yes	No	Yes
Observations	6'359'243	6'359'243	5'805'927	5'805'927	6'359'243	6'359'243
N. Banks	99	99	99	99	99	99
N. Firms	541'138	541'138	483'024	483'024	541'138	541'138
R^2	0.471	0.472	0.470	0.471	0.471	0.473

Note: ***: 0.01, **: 0.05, *: 0.1. P-values shown in parenthesis are derived from two-way clustered standard errors at both bank and firm levels. The regression sample includes only multiple bank-firm relationships. The dependent variable is the growth in the stock of debt (Lending growth). The exogenous variables include the ratio of dividend planned in 2019 but not distributed in 2020 to risk weighted assets (Dividends/RWA). Control variables are specified in Equation 1.

# Annex – Multi e single relationship samples with ILS

Table: ILS regressions for the multi and single relationship samples

VARIABLE	(1) Lending growth	(2) Lending growth	(3) Lending growth	(4) Lending growth
SAMPLE	Multi Rel.	Single Rel.	Multi Rel.	Single Rel.
Dividends / RWA	4.859***	**0.463**	4.724***	**-0.671**
	-1.198	**-0.86**	-1.504	**-1.633**
Obs.	6,065,711	4,792,236	6,065,711	4,792,234
N. banks	99	98	99	97
N firms	525,982	991,818	525,982	991,816
Bank and bank-firm controls	Yes	Yes	Yes	Yes
ILS-date FE	Yes	Yes	Yes	Yes
Bank FE	No	No	Yes	Yes

Table: Frequency distribution table: single-multi relationship vs. firms' size

	Firms' size				Total
	Large	Medium	Small	Micro	
Single Rel.	438,386	781,493	2,167,369	**11,622,159**	15,009,407
% of row	2.92	5.21	14.44	77.43	100
% of column	34.88	39.41	41.99	71.49	60.87
Multiple Rel.	818,460	1,201,349	2,993,697	4,633,846	9,647,352
% of row	8.48	12.45	31.03	48.03	100
% of column	65.12	60.59	58.01	28.51	39.13
Total	1,256,846	1,982,842	5,161,066	16,256,005	24,656,759
% of row	5.1	8.04	20.93	65.93	100
% of column	100	100	100	100	100

Annex – Parallel trends
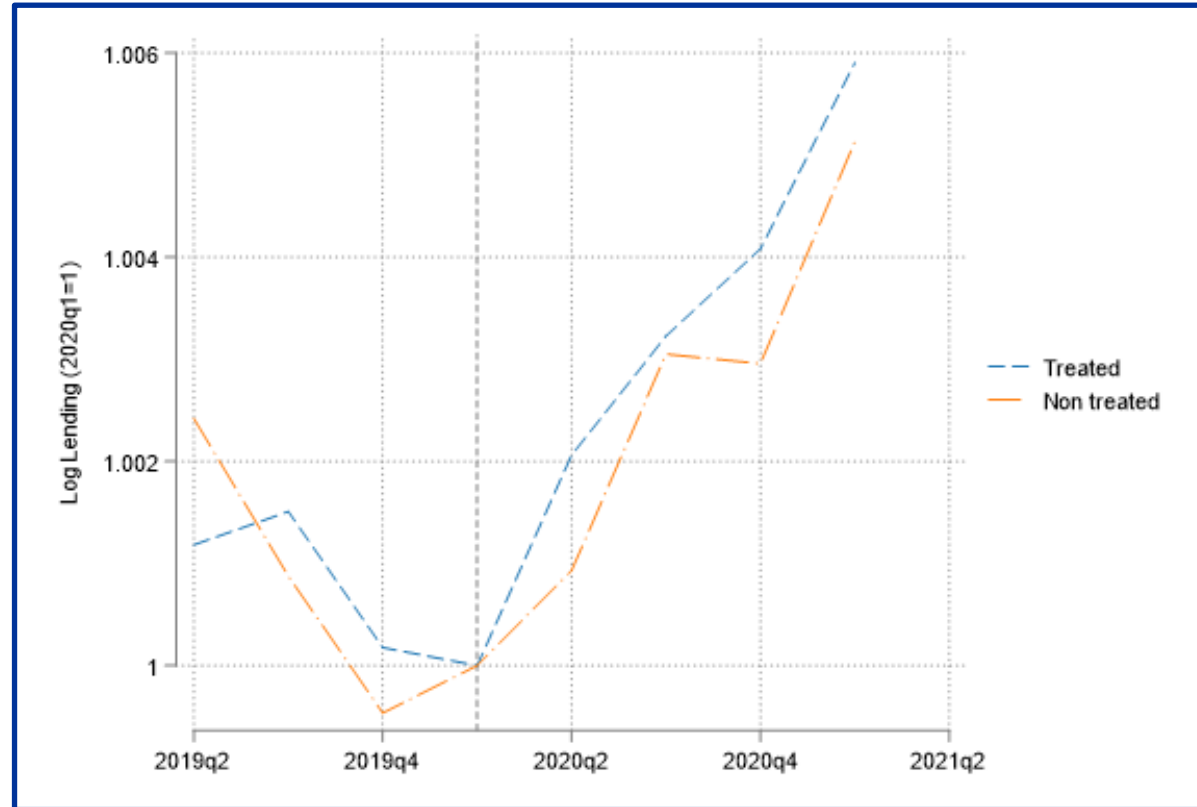
Note: This figure shows the trends of the logarithm of the average bank-firm level lending for the group of control banks either did not follow the ECB recommendation on dividends distribution or were not affected by it (orange dot-dashed line) and the treated group of banks that followed the recommendation suspending partly or in full their dividend distribution plans (blue dashed line). Source: Anacredit and authors' calculations.

Annex – Strictly positive dividend plans

Table 7: Robustness: Robustness with banks with strictly positive dividend distribution plans

Dep.var. Lending Growth$_{bft}$	Banks with Strictly Positive Dividend Plans					
	Baseline		Firm Size		Vulnerable Sectors	
	(1)	(2)	(3)	(4)	(5)	(6)
(Dividends/RWA)$_{bt}$	4.388	4.027	4.031	3.770	2.225	2.403
	(0.000)***	(0.005)***	(0.000)***	(0.004)***	(0.010)***	(0.087)*
Medium ent. × (Dividends/RWA)$_{bt}$			2.155	1.629		
			(0.002)***	(0.003)***		
Small ent. × (Dividends/RWA)$_{bt}$			2.998	1.931		
			(0.002)***	(0.006)***		
Micro ent. × (Dividends/RWA)$_{bt}$			-0.721	-1.437		
			(0.477)	(0.111)		
Vulnerable sectors × (Dividends/RWA)$_{bt}$					3.026	2.238
					(0.000)***	(0.000)***
Ln(TA)$_{bt-1}$	0.009	-0.118	0.008	-0.139	0.009	-0.121
	(0.011)**	(0.277)	(0.023)**	(0.218)	(0.013)**	(0.267)
(Mkt debt funding/TA)$_{bt-1}$	-0.023	0.165	-0.025	0.259	-0.027	0.170
	(0.631)	(0.628)	(0.642)	(0.483)	(0.573)	(0.618)
(RWA/TA)$_{bt-1}$	-0.029	-0.729	-0.034	-0.764	-0.035	-0.736
	(0.643)	(0.042)**	(0.616)	(0.039)**	(0.580)	(0.041)**
(NIM annualised)$_{bt-1}$	3.782	6.582	3.992	6.478	3.830	6.539
	(0.000)***	(0.001)***	(0.000)***	(0.002)***	(0.000)***	(0.001)***
(NPL ratio)$_{bt-1}$	0.423	1.664	0.428	1.700	0.424	1.656
	(0.000)***	(0.003)***	(0.000)***	(0.004)***	(0.000)***	(0.004)***
CET1 MDA Distance)$_{bt-1}$	0.499	2.039	0.533	2.044	0.494	2.024
	(0.001)***	(0.000)***	(0.002)***	(0.000)***	(0.001)***	(0.000)***
(Cash/TA)$_{bt-1}$	0.140	-0.117	0.132	-0.108	0.136	-0.116
	(0.116)	(0.344)	(0.178)	(0.420)	(0.129)	(0.346)
(Provisions/TA$_{bt-1}$)	0.096	12.851	-0.124	13.182	0.091	12.808
	(0.935)	(0.006)***	(0.919)	(0.006)***	(0.938)	(0.006)***
(Share Debt Moratoria)$_{bft}$	0.034	0.007	0.035	0.008	0.034	0.007
	(0.056)*	(0.313)	(0.072)*	(0.351)	(0.057)*	(0.304)
(Share Loan Guarantees)$_{bft}$	0.359	0.365	0.363	0.370	0.359	0.366
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
(TLTRO/TA)$_{bt-1}$	0.183	0.245	0.188	0.259	0.183	0.245
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
(Off balance sheet/TA)$_{bt-1}$	-0.034	0.114	-0.036	0.153	-0.034	0.114
	(0.275)	(0.326)	(0.270)	(0.236)	(0.281)	(0.330)
Firm-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	No	Yes	No	Yes	No	Yes
Observations	5'476'337	5'476'337	5'012'858	5'012'858	5'476'337	5'476'337
N. Banks	71	71	70	70	71	71
N. Firms	475'966	475'966	426'261	426'261	475'966	475'966
R^2	0.481	0.483	0.480	0.482	0.481	0.483

Note: ***: 0.01, **: 0.05, *: 0.1. P-values in parenthesis are derived from two-way clustered standard errors at both bank and firm levels. The regression sample contains only multiple bank-firm relationships. The dependent variable is the growth in the stock of debt (Lending growth). The exogenous variables include the ratio of dividend planned in 2019 but not distributed in 2020 to risk weighted assets (Dividends/RWA). Control variables are specified in Equation 1.

Annex – Alternative treatment periods

Placebo Treatment Period	19Q2-20Q1		19Q3-20Q1		19Q4-20Q1		20Q1	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$(Dividends/RWA)_{bt}$	0.435	-57.610	1.037	0.679	3.029	3.953	0.373	-2.911
	(0.647)	(0.000)***	(0.481)	(0.775)	(0.155)	(0.150)	(0.546)	(0.290)
$Ln(TA)_{bt-1}$	0.005	-0.034	0.004	-0.018	0.003	-0.055	0.006	-0.016
	(0.129)	(0.782)	(0.209)	(0.893)	(0.417)	(0.611)	(0.091)*	(0.901)
$(Mkt\ debt\ funding/TA)_{bt-1}$	0.068	-1.998	0.067	-2.354	0.065	-2.239	0.067	-2.512
	(0.121)	(0.002)***	(0.128)	(0.002)***	(0.145)	(0.002)***	(0.124)	(0.002)***
$(RWA/TA)_{bt-1}$	0.005	0.437	-0.000	0.618	-0.016	0.410	0.009	0.763
	(0.926)	(0.121)	(0.996)	(0.045)**	(0.776)	(0.024)**	(0.883)	(0.099)*
$(NIM\ annualised)_{bt-1}$	2.197	-1.857	2.279	-2.800	2.482	-2.128	2.151	-3.458
	(0.003)***	(0.434)	(0.001)***	(0.333)	(0.000)***	(0.412)	(0.005)***	(0.157)
$(NPL\ ratio)_{bt-1}$	0.309	-0.234	0.309	-0.102	0.312	-0.274	0.308	0.130
	(0.022)**	(0.504)	(0.021)**	(0.789)	(0.016)**	(0.496)	(0.023)**	(0.780)
$CET1\ MDA\ Distance)_{bt-1}$	0.405	2.105	0.400	2.225	0.385	1.960	0.411	2.333
	(0.005)***	(0.005)***	(0.005)***	(0.010)**	(0.008)***	(0.002)***	(0.005)***	(0.012)**
$(Cash/TA)_{bt-1}$	0.139	-0.146	0.137	-0.164	0.139	0.062	0.154	-0.329
	(0.112)	(0.324)	(0.116)	(0.435)	(0.118)	(0.819)	(0.119)	(0.157)
$(Share\ Debt\ Moratoria)_{bft}$	-0.022	-0.029	-0.021	-0.028	-0.020	-0.029	-0.022	-0.027
	(0.596)	(0.418)	(0.599)	(0.441)	(0.612)	(0.419)	(0.595)	(0.457)
$(Share\ Loan\ Guarantees)_{bft}$	2.918	2.887	2.917	2.893	2.911	2.890	2.918	2.897
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
$(TLTRO/TA)_{bt-1}$	1.565	-0.663	1.556	-0.642	1.539	-0.632	1.578	-0.556
	(0.000)***	(0.252)	(0.000)***	(0.298)	(0.000)***	(0.263)	(0.000)***	(0.303)
$(Off\ balance\ sheet/TA)_{bt-1}$	0.011	-0.322	0.009	-0.320	0.005	-0.272	0.014	-0.356
	(0.762)	(0.001)***	(0.817)	(0.006)***	(0.897)	(0.005)***	(0.708)	(0.005)***
Firm-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	No	Yes	No	Yes	No	Yes	No	Yes
Observations	2720382	2720382	2720382	2720382	2720382	2720382	2720382	2720382
N. Banks	95	95	95	95	95	95	95	95
N. Firms	376407	376407	376407	376407	376407	376407	376407	376407
R^2	0.427	0.430	0.427	0.430	0.427	0.430	0.427	0.430

Signif. Levels : ***: 0.01, **: 0.05, *: 0.1. P- values in parenthesis derived from two-way clustered standard errors at bank and firm levels.