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IMPACT OF THE DIVIDEND DISTRIBUTION  
RESTRICTION ON THE FLOW OF CREDIT  
TO NON-FINANCIAL CORPORATIONS IN SPAIN

David Martínez-Miera and Raquel Vegas

## ABSTRACT

This article analyses the impact of Recommendation ECB/2020/19 (to credit institutions to refrain from making dividend distributions and performing share buy-backs aimed at remunerating shareholders) on lending by Spanish banks between January and September 2020. Specifically, we use a sample of Spanish banks and exploit the fact that only some of them (those that had already approved dividend pay-outs before the recommendation) were able to pay dividends during the first few months of the pandemic. This quasi-natural experiment allowed us to analyse the impact of dividend restrictions on lending. Banks that limited their dividend distributions during the period analysed extended significantly more credit (12% to 23% more than banks that did not limit them) to non-financial corporations after the entry into force of the recommendation. At the same time, firms that received loans with public guarantees, such as, for example, loans that benefit from the ICO's guarantee facilities established in response to the COVID-19 pandemic, received more credit from banks that did not make dividend distributions than from those that did, which suggests that these two measures may complement one another.

**Keywords:** dividends, credit, COVID-19.

**JEL classification:** E50, E51, G21, G28, G32, G35, I18.

## IMPACT OF THE DIVIDEND DISTRIBUTION RESTRICTION ON THE FLOW OF CREDIT TO NON-FINANCIAL CORPORATIONS IN SPAIN

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### Introduction

The major health and economic impact of the COVID-19 pandemic, from the beginning of March 2020, required rapid, far-reaching economic policy decisions to be taken. Many of these have been innovative and their effectiveness remains uncertain. From an economic standpoint, the risk of an unprecedented crisis (for reasons exogenous to the financial system) made the need for extraordinary action to mitigate their impact evident. Among the many economic measures taken, some were designed to ensure that credit continued to flow to firms, to prevent any liquidity problems for businesses as a result of the COVID-19 crisis becoming solvency problems and thus having an adverse effect on economic activity. This was the rationale behind, for example, the Official Credit Institute's (ICO by its Spanish initials) COVID-19 facilities in Spain and the easing of and recommendation to use liquidity and capital buffers in Europe and also in other jurisdictions. At the same time, in order that credit institutions should conserve capital to retain their capacity to support the economy in an environment of heightened uncertainty caused by COVID 19, various prudential authorities recommended that banks should not pay any dividends or other forms of profit distribution, or variable remuneration. The purpose of this article is to analyse the impact of this recommendation on bank lending.

The restriction on dividend payments in Europe was imposed by Recommendation ECB/2020/19 of 27 March 2020, which recommended that significant credit institutions refrain from making dividend distributions or share repurchases to remunerate shareholders during the economic crisis caused by COVID-19. Subsequently, Recommendation 2020/7 of 27 May 2020 of the European Systemic Risk Board (ESRB) extended the restriction on dividend payments to the financial system as a whole. Recommendation ECB/2020/19 was subsequently repealed and extended to 1 January 2021 by Recommendation ECB/2020/35 of 27 July 2020. On 15 December 2020, owing to the persisting uncertainty regarding the evolution of the pandemic and the extent to which the resulting economic shock has materialised in the banking sector, the ECB considered it necessary for banks to continue to refrain from paying out dividends or repurchasing shares, at least if these amount to more than 15% of their accumulated profit in 2019 and 2020, or more than 20 basis points

(bp) in terms of the Common Equity Tier 1 ratio, whichever is lower. Reflecting this, Recommendation ECB/2020/62 repealed the previous recommendation and extended the restrictions on dividend payments to 30 September 2021.

The adoption of Recommendation ECB/2020/19 was controversial since its impact on the banking system is not unequivocal. On one hand, it aims to improve the financial situation of banks, thereby reducing the risk of possible problems arising from their undercapitalisation, whether in the form of a reduction in lending to firms or possible bank solvency problems. However, on the other hand, it was argued against this measure that, by preventing dividend payments and thus signalling by banks to the financial markets, it may generate problems for future issues of bank capital and increase the cost of capital for banks, leading to a reduction in lending.<sup>1</sup>

The purpose of this article is to establish, on the basis of the evidence available six months after the practical implementation of Recommendation ECB/2020/19, whether the measure had any effect on the volume of lending by Spanish banks up to September 2020. For this purpose, a difference-in-differences (DD) analysis is conducted, with each bank included in either the treatment group or the control group according to its dividend distribution policy during the period between January and September 2020.<sup>2</sup> As explained in more detail in the next section of this article, the recommendation affected banks differently: some had already committed to a dividend distribution and therefore paid dividends (control group), while others had not done so and, therefore, their dividend policy was altered when they did not pay any dividend (treatment group).

The estimations are based on granular information on new lending to non-financial corporations (NFCs) from the Banco de España's Central Credit Register (CCR). The results suggest that Recommendation ECB/2020/19 has had a significant impact (both statistically and economically) on new lending, since a difference is observed between the increase in the volume of lending of banks that did not pay dividends and in that of banks that did pay dividends. Specifically, the results of this analysis indicate that, controlling for various factors, banks affected by the dividend restriction lent between 12% and 23% more (depending on the sample and specification considered) to non-financial corporations than banks that paid dividends (and therefore were not affected by this first restriction) once the recommendation entered into force. It is important to stress that from July (for the months of August and September) the effect of the dividend restriction seems to fade. This finding requires further analysis, but a possible explanation could be the fact that the extension of the dividend recommendation from Q2, by Recommendation

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1 Fernández Lafuerza and Mencía (2020) provide evidence on recent developments in the cost of bank capital. Svoronos and Vrbaski (2020) provide an analysis of different actions in different jurisdictions.

2 The DD method is commonly used in economic analysis, although the first example of its application is attributed to Snow (1856), who used it to analyse the hypothesis that cholera was transmitted by contaminated drinking water.

ECB/2020/35, affects all banks equally (treatment and control groups), affecting the identification strategy.

The results obtained suggest moreover that lending by banks whose dividend payments have been restricted increases more in the case of firms for which financial information is available from the Banco de España's Central Balance Sheet Data Office (CBSO) (generally larger firms).

Finally, to analyse whether the limitation on dividend distribution interacts with other measures taken in response to the COVID-19 crisis, we study whether a differential effect can be observed on the volume of lending by these banks to firms that have received government assistance in the form of a public guarantee due to COVID-19. The results suggest that these measures reinforce one another, since the banks affected by the dividend restriction lend more after the entry into force of the recommendation than those not affected by it to firms that have some type of guarantee associated with the COVID-19 public support measures.

## Empirical analysis

Recommendation ECB/2020/19 initially urged banks not to pay out dividends (or to incur irrevocable commitments to distribute them) until 1 October 2020.<sup>3</sup> Different institutions making up the ESRB, such as the European Banking Authority (EBA), the European Insurance and Occupational Pensions Authority (EIOPA) and numerous national authorities, promptly adhered to this recommendation. They asked credit institutions and insurance and reinsurance companies to avoid voluntary disbursements (such as dividend pay-outs and share premiums and buy-backs) to remunerate shareholders.<sup>4,5</sup> The Banco de España also extended this recommendation to the institutions under its supervision.<sup>6</sup> In July 2020, given that economic uncertainty remained high, it was deemed necessary to retain this measure and thereby preserve banks' capital for longer. In this connection, it was decided to recommend postponing dividend distributions beyond the initially foreseen period. The specific date of 1 January 2021 (Recommendation ECB/2020/35) was set to ensure the resilience of the financial sector, to strengthen its capacity to extend credit and to reduce the risk of insolvency ahead of the uncertainty related to COVID-19.<sup>7</sup> On 15 December 2020,

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3 Recommendation ECB/2020/19.

4 Recommendation ESRB/2020/7.

5 EIOPA Statement.

6 Banco de España note (in Spanish) in this connection. This measure has, for different reasons, been applied in other areas of economic activity in Spain. Specifically, Royal Decree-Law 18/2020 of 12 May 2020 on social measures in defence of employment included a restriction on dividend distribution for companies that had availed themselves of furlough arrangements for reasons of force majeure, in conformity with the causes set out in Article 22 of Royal Decree-Law 8/2020 of 17 March 2020. It is only permitted to distribute dividends for the year in which a furlough scheme is implemented if the company has previously paid the social security contribution amounts from whose payment it had been exempted.

7 Recommendation ECB/2020/35.

owing to the high uncertainty still prevailing, it was considered necessary for banks to continue refraining from paying out dividends, at least for amounts exceeding 15% of the profit accumulated in 2019 and 2020, or more than 20 basis points of the CET1 ratio, if this latter amount were lower. Accordingly, Recommendation ECB/2020/62 repealed its predecessor and extended the limitation on dividend distribution to 30 September 2021.<sup>8</sup>

When Recommendation ECB/2020/19 was announced on 27 March 2020, some banks had already committed to paying out dividends in the first quarter of the year. They honoured their commitment following a legal consultation which concluded that backtracking on dividend distribution and variable remuneration were not possible if such payments had already been approved in the General Meeting. Other banks cancelled their dividend, either because they had not committed to a dividend pay-out or had said it was still pending approval. The basic identifying assumption underpinning this analysis is the fact that the date of the Board meeting (where the dividend pay-out was approved) for each bank was outside the timeframe of the date on which the recommendation entered into force. Hence, the group of banks which saw their dividend distribution effectively restricted during the first half of the year might be considered as random.

In conducting this analysis, consideration has been given to significant Spanish banks' information on profit (consolidated profit attributable to the parent) and dividend policy (amount paid, suspended and total proposed). The basis for this information was their 2019 consolidated annual accounts and their communications on the suspension and cancellation of proposed dividends taken from their corporate websites.<sup>9</sup>

Also, granular information has been drawn from the CCR on new lending granted to NFCs in the January-September 2020 period by the banks under consideration. Further, the information on firms to which new loans have been made by these banks from January to September has been completed with the economic and financial information available at the CBSO, which the firms report yearly in their annual accounts filed with the Mercantile Register.

According to this information, seven of the twelve Spanish banks considered paid out a dividend from their 2019 profit (BBVA, Banco Sabadell, Bankia, Bankinter, Abanca Corp., Bancaria, Ibercaja,<sup>10</sup> Grupo Cajamar), while five (Banco Santander, Caixabank, Kutxabank, Liberbank, Unicaja) suspended part or all of the pay-out. The first group will be the control group and the second one the treatment group.

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<sup>8</sup> Recommendation ECB/2020/62.

<sup>9</sup> Updated as at 6/11/2020

<sup>10</sup> Ibercaja belongs in the control group since it distributed its announced dividend in the third four-month period of 2020, although this entailed a deferral of its pay-out date.

Overall, in 2020, the banks considered distributed dividends from 2019 profit for an amount of around €5.02 billion, accounting for around 67.8% of the dividends initially proposed out of 2019 profit.

To determine the impact that Recommendation ECB/2020/19 and its extension via Recommendation ECB/2020/35 has had on lending to NFCs, those banks that limited part or all of their envisaged dividend pay-out for 2019 are considered as treated, i.e. affected by the dividend distribution restriction. The following equation is estimated at firm-bank level:<sup>11</sup>

$$\ln(\text{Credit})_{ijt} = \beta_0 + \beta_1 * \text{post}_t + \beta_2 * (\text{treated}_{ijt} * \text{post}_t) + b_j + e_i + h_{it} + \varepsilon_{ijt} \quad [1]$$

where the dependent variable  $\ln(\text{Credit})_{ijt}$  is the Napierian logarithm of new lending that firm  $i$  receives from bank  $j$  in month  $t$ ;  $\text{post}_t$  is an index variable that takes the value 1 after March 2020 and zero otherwise, while the treatment variable identifies, on taking the value 1, those banks which, over the period considered, were affected by the limitation on dividend distribution.  $b_j$ ,  $e_i$  and  $h_{it}$  respectively reflect supply-side factors (non-observable and time-invariant bank fixed effects) and demand-side factors (firm fixed effects, non-observable firm-time fixed effects, and firm characteristics), which are important for explaining developments in lending granted.

Banks are classified in the treatment as opposed to the control group in accordance with the above-mentioned definition. The relationship expressed in equation [1] is estimated using ordinary least squares (OLS) and this specification is progressively enriched with the inclusion of firm and bank fixed effects and, ultimately, firm characteristics. The aim thereby is to identify as precisely as possible potential demand-side effects, and thus have the  $\beta_2$  coefficient estimate more exactly the impact of the dividend restriction on the credit supply of the treated banks.

## Results

The results of the different estimations are included in columns 1 to 5 of Table 1. The first column solely includes the treated and post variables as a control. The first of these variables identifies a bank as belonging to either the treatment or the control group, and the second identifies the months after the application of the recommendation. Our coefficient of interest is the interaction between them, namely  $\text{treated}_{ijt} * \text{post}_t$ , which reflects the differential effect for treated banks as from the entry into force of Recommendation ECB/2020/19. From the second up to the fourth column, the specification is enriched by means of the progressive

<sup>11</sup> The amounts of new lending, operation by operation, for each bank-firm every month from January to September 2020.

Table 1

**IMPACT ON NEW LENDING TO NON-FINANCIAL CORPORATIONS: JANUARY-SEPTEMBER 2020**

Y = ln (Crédit <sub>ijt</sub> )	(1)	(2)	(3)	(4)	(5)	(6)
Treated * Post	0.128*** (0.009)	0.150*** (0.009)	0.134*** (0.008)	0.119*** (0.013)	0.229*** (0.012)	0.145*** (0.018)
Treated	0.432*** (0.007)					
Post	0.355*** (0.006)	0.367*** (0.006)	0.411*** (0.005)		0.392*** (0.008)	
Constant	2.098*** (0.005)	2.267*** (0.004)	2.408*** (0.003)	3.307*** (0.004)	-0.309*** (0.013)	3.392*** (0.006)
Observations (millions)	1.704	1.704	1.392	0.611	0.728	0.315
R <sup>2</sup>	0.014	0.024	0.518	0.599	0.131	0.581
Bank effects	No	Yes	Yes	Yes	Yes	Yes
Firm effects	No	No	Yes	Yes	No	Yes
Firm-time effects	No	No	No	Yes	No	Yes
Firm controls	No	No	No	No	Yes	No
Restricted	No	No	No	No	No	5

**SOURCE:** Estimation based on CCR and CBSO data.

**NOTE:** This table reports the estimated coefficients of equation [1]: the parameter of interest is  $\beta_2$ , the Treated \* Post interaction coefficient. Treated is a variable that takes the value 1 for banks affected by the dividend restrictions arising from Recommendation ECB/2020/19, and otherwise 0. Post is a variable that takes the value 1 between April and September (after the entry into force of the recommendation) and 0 in January, February and March. Column 1 reports the estimation coefficients without fixed effects. The specification is progressively enriched from columns 1 to 5 to add: bank fixed effects in column 2; bank fixed effects and firm fixed effects in column 3; bank fixed effects, firm fixed effects and firm-time fixed effects in column 4; and bank fixed effects and firm controls in column 5. The specification in column 5 includes as firm controls the following variables relating to 2018: net operating profit, liquidity ratio, capital to assets ratio, permanent employee ratio and average cost of debt, measured as the ratio between the financial costs and liabilities (current and non-current) of the firm. Column 6 replicates the most complete specification (column 4) restricted to the sample of firms for which we have CBSO data (column 5). The coefficients are listed in the first row, and the corresponding bank-level clustered robust standard errors are in brackets in the next row. The statistical significance levels are reported along with the coefficients, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

inclusion of bank fixed effects (column 2), to control for the possible non-observed heterogeneity of the banks (lending policy differences, inter alia); combined firm and time fixed effects (column 3), so as also to take into account the non-observed heterogeneity of firms and to capture relevant firm characteristics that affect the demand for lending; and, in addition, firm-time fixed effects (column 4), which allow us to control for possible effects of firms' demand. Alternatively, column 5 includes firm controls, with which we capture those observable characteristics of non-financial corporations (obtained from CBSO information)<sup>12</sup> that may be relevant to the granting of credit.<sup>13</sup> For comparative purposes, we show the results of the estimation with all fixed effects (column 6) restricted to the sub-set of firms considered in column 5.

12 Specifically, use is made of the information on individual firms available in the CBI (integrated CBSO database), which is the result of the combined information from the CBA (CBSO annual survey) database and the CBB (information filed with the Mercantile Register) database.

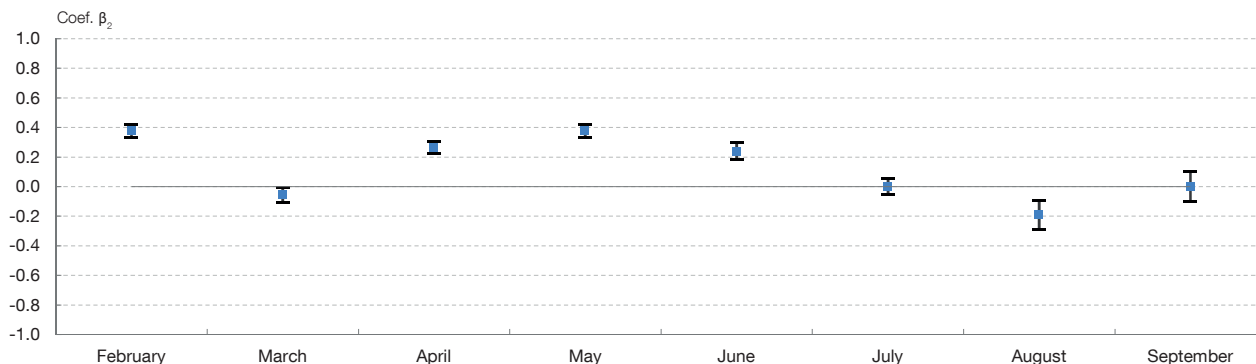
13 Specifically included as firm regressors are the following variables relating to the latest CBSO information available: net operating profit, liquidity, volume of assets, volume of own funds, productive structure of the firm (permanent employee ratio), cost of debt (cost of debt on the basis of equity) and age of the company.



Chart 1

**DIFFERENTIAL EFFECT ON NEW LENDING OF SPANISH BANKS AFFECTED BY THE DIVIDEND RESTRICTIONS**

From April, the banks affected by the dividend restrictions lend between 37.3% (May) and 3.6 % (July) more than in January, as compared with the banks not affected by the dividend restrictions. From July, this effect appears to fade.



**SOURCE:** Authors' calculations, based on CCR data.

**NOTE:** Point estimate of parameter  $\beta_2$ , the interaction coefficient for the treated group after March, in estimation with bank and firm fixed effects and firm-time fixed effects for all the banks considered. Each point estimate of parameter  $\beta_2$ , the treated \* post interaction coefficient, is indicated by a blue square. The vertical line through each square represents the 95% confidence interval.

As Table 1 shows, a positive and significant effect on lending is obtained from the dividend pay-out restriction. In addition, as we include further controls in the model, the restriction on dividend distribution appears to have a greater effect on the lending of the banks affected: banks not distributing dividends have granted 11.9% more lending as from March (column 4), while the effect is somewhat greater (14.5%; column 6) if we consider solely firms for which we have information from the Mercantile Register (potentially larger corporations). This seems to indicate that there has been an uneven effect of this dividend restriction on credit granted to firms.<sup>14</sup>

To obtain a better description of the time dimension of the dividend restriction effect, we re-estimate equation [1] for the specification that includes bank fixed effects, firm fixed effects and firm-time fixed effects, where the prior reference period is January and the subsequent measurement period is each of the following months. Chart 1 shows the results of this estimation, which enables us to identify the distribution of the dividend restriction effect month by month.

From April, the banks affected by the dividend restriction averaged lending of between 37.3% (May) and 3.6% (June) more than banks not affected, compared with January. From July, this effect appears to wane, turning negative in August. It is worth mentioning that this latter result (August and September) requires a more exhaustive analysis, since it might be related to the fact that the period during which it was recommended not to distribute profit was extended in July (to beyond 31

<sup>14</sup> Coefficient of interaction for the bank and firm fixed effects estimate.

October). This might affect the identification strategy used since, by extending the period the recommendation is in force, the restriction has a bearing on all the banks in the sample (treatment and control group).

Given the differences between the banks considered, both in observable variables (volume of assets or loans granted) and in possible non-observable variables (e.g. lending policies), various robustness exercises have been performed. They aim to determine to what extent the results obtained for the set of banks considered might actually be reflecting the behaviour of a sub-group of such banks. The main one of these exercises involves re-estimating equation [1] by considering separately different groups of banks grouped in clusters, using Ward's methodology (1963) to do so.<sup>15</sup> The first group – cluster 1 – would comprise the three biggest banks, while the second group – cluster 2 – would be made up by the other Spanish banks considered significant.

This cluster-based analysis allows us to compare banks that are more similar to one another in terms of equity and asset volume, but which differ owing to the fact that they have been affected (or not) by the dividend restriction. At the same time, we control for several non-observable (and observable) demand-side factors, gradually introducing bank, firm and firm-time fixed effects into the estimates. Tables 2A and 2B respectively reflect the results of this analysis, for clusters 1 and 2, and for an alternative grouping of banks (which includes in cluster 3 the five biggest banks, and in cluster 4 the rest).

Charts 2, 3, 4 and 5 offer a month-by-month depiction of the results of the estimates with firm, bank and firm-time fixed effects, presenting the differential effect of new lending in relation to January.

On considering solely the banks classified in cluster 1 (Chart 2), those affected by the dividend restriction granted, on average, more lending than in January in the months between February and September 2020. The difference oscillated between 51.4% (in May) and 9.6% (in March). Conversely, on considering the banks in cluster 2 (Chart 2), these cannot be said to have behaved differently in terms of statistical significance in relation to January as regards their lending policy in the months between February and September 2020. The exception is March (where the banks affected by the recommendation to restrict dividend distribution granted 44% less lending).

In cluster 3, as can be seen in Chart 4, the banks subject to the dividend restriction grant significantly more lending as from March (compared with January) than banks unaffected by the restriction, except in August. The difference ranges between 28.5% (April), 26.5% (May) and 4.6% (March). If we compare the results obtained in

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15 This method groups banks that are most similar to one another on the basis of the category selected, minimising the distance between them using a recursive procedure in which intra-cluster variance is minimised.

Table 2.A

**IMPACT ON NEW LENDING TO NON-FINANCIAL CORPORATIONS. JANUARY-SEPTEMBER 2020. CLUSTER ANALYSIS**

Y = ln (Credit <sub>it</sub> )	(1)	(2)	(3)	(4)	(5)	(6)
<i>Cluster 1</i>						
Treated * Post	0.178*** (0.012)	0.189*** (0.012)	0.149*** (0.011)	0.238*** (0.021)	0.375*** (0.015)	0.291*** (0.028)
Treated	0.481*** (0.009)					
Post	0.315*** (0.010)	0.315*** (0.010)	0.366*** (0.009)		0.226*** (0.013)	
Constant	2.127*** (0.008)	2.458*** (0.004)	2.601*** (0.004)	3.556*** (0.010)	0.028* (0.017)	3.587*** (0.013)
Observations (millions)	0.941	0.941	0.724	0.196	0.406	0.101
R <sup>2</sup>	0.019	0.019	0.570	0.657	0.127	0.643
<i>Cluster 2</i>						
Treated * Post	0.297*** (0.027)	0.284*** (0.026)	0.331*** (0.026)	0.220*** (0.051)	0.387*** (0.037)	0.182*** (0.069)
Treated	-0.587*** (0.022)					
Post	0.373*** (0.007)	0.389*** (0.007)	0.410*** (0.007)		0.469*** (0.010)	
Constant	2.085*** (0.006)	2.028*** (0.006)	2.252*** (0.005)	3.411*** (0.006)	-0.793*** (0.022)	3.482*** (0.008)
Observations (millions)	0.763	0.763	0.575	0.178	0.322	0.094
R <sup>2</sup>	0.005	0.017	0.565	0.615	0.128	0.607
Bank effects	No	Yes	Yes	Yes	Yes	Yes
Firm effects	No	No	Yes	Yes	No	Yes
Firm-time effects	No	No	No	Yes	No	Yes
Firm controls	No	No	No	No	Yes	No
Restricted	No	No	No	No	No	5

**SOURCE:** Estimation based on CCR and CBSO data.

**NOTE:** This table reports the coefficients of the estimation of equation [1], where the parameter of interest is  $\beta_2$ , the Treated \* Post interaction coefficient. Treated is an index variable that takes the value 1 for banks affected by the dividend restrictions arising from Recommendation ECB/2020/19, and otherwise 0. Post is an index variable that takes the value 1 for the months April to September (after the entry into force of the recommendation) and 0 in January, February and March. Specifically, this table reports the coefficients of the regression in equation [1], for clusters 1 and 2. The first cluster groups together the three most important significant institutions in terms of volume of assets and the second cluster the rest of the significant Spanish institutions. The specification is progressively enriched from columns 1 to 5 to add progressively: bank fixed effects in column 2; bank fixed effects and firm fixed effects in column 3; bank fixed effects, firm fixed effects and firm-time fixed effects in column 4; and, finally, bank fixed effects and firm controls in column 5. In column 6, equation [1] is estimated with the specification of column 4 restricted to the sample of firms for which we have CBSO data (column 5). The coefficients are listed in the first row, and the corresponding banklevel clustered robust standard errors are in brackets in the next row. The statistical significance levels are reported along with the coefficients, \*\*\* p<0,01, \*\* p<0,05, \* p<0,1.

the estimates for cluster 1 and cluster 3, the inclusion of the two additional banks in the control group lowers the estimated impact of the dividend restriction to 33% of their value for cluster 1. Moreover, on analysing the month-by-month behaviour of the banks in cluster 4 (Chart 5), which are smaller banks and more similar than those comprising cluster 2, we cannot affirm that they grant significantly more lending from March, except in June.

Table 2.B

**IMPACT ON NEW LENDING TO NON-FINANCIAL CORPORATIONS. JANUARY-SEPTEMBER 2020. CLUSTER ANALYSIS**

Y = ln (Credit <sub>it</sub> )	(1)	(2)	(3)	(4)	(5)	(6)
<i>Cluster 3</i>						
Treated * Post	0.085*** (0.010)	0.071*** (0.010)	0.057*** (0.009)	0.079*** (0.016)	0.168*** (0.013)	0.040*** (0.010)
Treated	0.650*** (0.008)					0.587*** (0.008)
Post	0.408*** (0.007)	0.433*** (0.007)	0.468*** (0.006)		0.435*** (0.009)	0.467*** (0.007)
Constant	1.958*** (0.006)	2.268*** (0.004)	2.426*** (0.003)	3.419*** (0.006)	-0.125*** (0.015)	2.141*** (0.006)
Observations (millions)	1.327	1.327	1.051	0.383	0.559	1.051
R <sup>2</sup>	0.024	0.026	0.547	0.635	0.128	0.021
<i>Cluster 4</i>						
Treated * Post	0.419*** (0.028)	0.446*** (0.027)	0.445*** (0.028)	0.304*** (0.059)	0.550*** (0.038)	0.515*** (0.032)
Treated	-0.892*** (0.023)					-1.033*** (0.026)
Post	0.251*** (0.011)	0.227*** (0.011)	0.285*** (0.010)		0.313*** (0.014)	0.290*** (0.011)
Constant	2.391*** (0.009)	2.258*** (0.008)	2.426*** (0.007)	3.525*** (0.011)	-0.957*** (0.030)	2.562*** (0.009)
Observations (millions)	0.377	0.377	0.281	0.063	0.169	0.281
R <sup>2</sup>	0.009	0.019	0.580	0.614	0.136	0.012
Bank effects	No	Yes	Yes	Yes	Yes	Yes
Firm effects	No	No	Yes	Yes	No	Yes
Firm-time effects	No	No	No	Yes	No	Yes
Firm controls	No	No	No	No	Yes	No
Restricted	No	No	No	No	No	3

**SOURCE:** Estimation based on CCR and CBSO data.

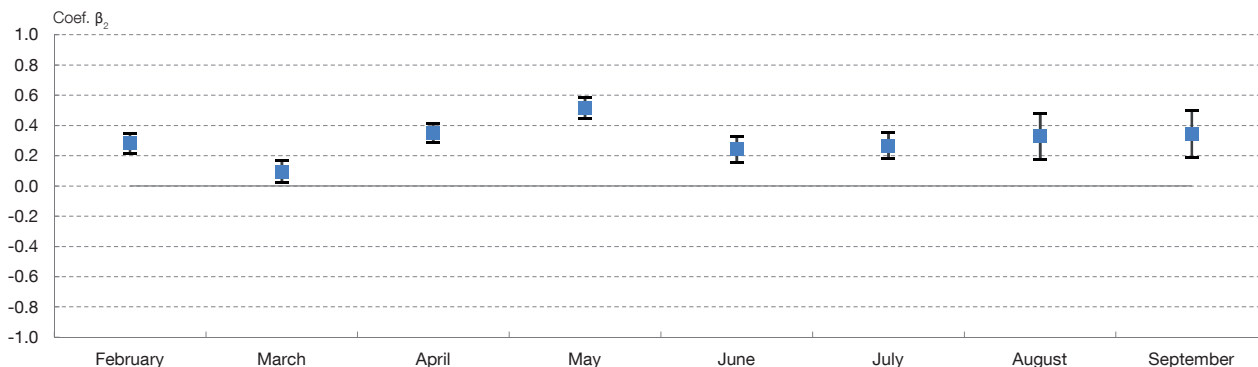
**NOTE:** This table reports the coefficients of the estimation of equation [1], where the parameter of interest is  $\beta_2$ , the Treated \* Post interaction coefficient. Treated is an index variable that takes the value 1 for banks affected by the dividend restrictions arising from Recommendation ECB/2020/19, and otherwise 0. Post is an index variable that takes the value 1 for the months April to September (after the entry into force of the recommendation) and 0 in January, February and March. Specifically, this table reports the coefficients of the regression in equation [1], for clusters 3 and 4, constructed following the methodology of Ward (1963), where the banks have been grouped by total volume of assets and capital, as indicated in Table 1. Column 1 reports the estimation coefficients without fixed effects. The specification is progressively enriched from columns 1 to 5 to add progressively: bank fixed effects in column 2; bank fixed effects and firm fixed effects in column 3; bank fixed effects, firm fixed effects and firm-time fixed effects in column 4; and, finally, bank fixed effects and firm controls in column 5. The coefficients are listed in the first row, and the corresponding bank-level clustered robust standard errors are in brackets in the next row. The statistical significance levels are reported along with the coefficients, \*\*\* p<0,01, \*\* p<0,05, \* p<0,1.

Given the notable significance of other measures taken following the outbreak of COVID-19 to smooth financing to firms with liquidity needs, with notable examples being the ICO-COVID-19 loans with public guarantees and loan moratoria, it is important to bear in mind the possible interaction between these measures. Table 3 sets out the results of the analysis derived from including in the foregoing regressions a firm-level variable – PG COVID-19 – which takes a value of 1 if the firm has received

Chart 2

**DIFFERENTIAL EFFECT ON NEW LENDING OF SPANISH BANKS AFFECTED BY THE DIVIDEND RESTRICTIONS. CLUSTER 1**

When only the banks classified in cluster 1 are considered, those affected by the dividend restrictions granted on average, in the months between February and September 2020, more credit than in January. The difference ranged from 51.4% (May) to 24.3% (June).



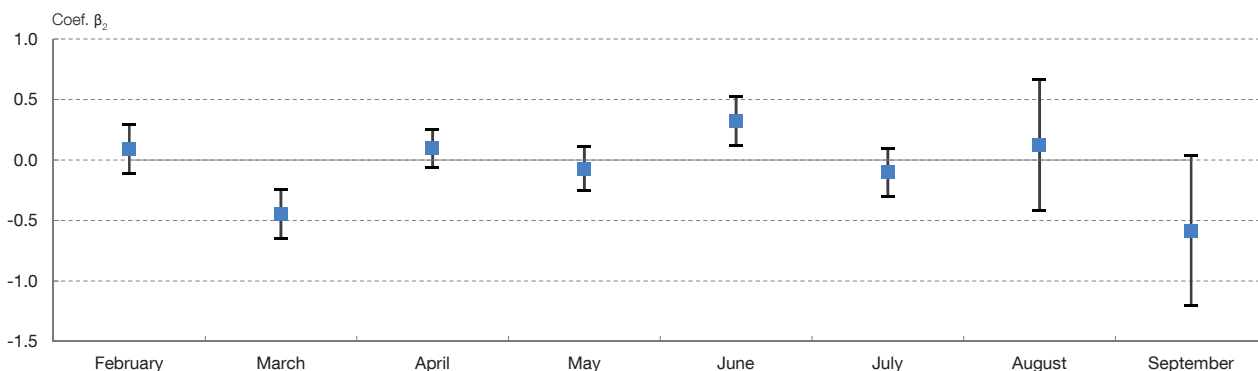
**SOURCE:** Authors' calculations, based on CCR data.

**NOTE:** Point estimate of parameter  $\beta_2$ , the interaction coefficient for the treated group after March, in the estimation with bank, firm and firm-time fixed effects, for all the banks considered, for cluster 1. Each point estimate of parameter  $\beta_2$ , coefficient of interaction treated \* entry into force of the recommendation, is indicated with a blue square. The vertical line represents the 95% confidence interval.

Chart 3

**DIFFERENTIAL EFFECT ON NEW LENDING OF THE SPANISH BANKS AFFECTED BY THE DIVIDEND RESTRICTIONS. CLUSTER 2**

In cluster 2, banks subject to the dividend restriction granted significantly more credit in April and July than banks that were not, the difference reaching up to 53% more (June).



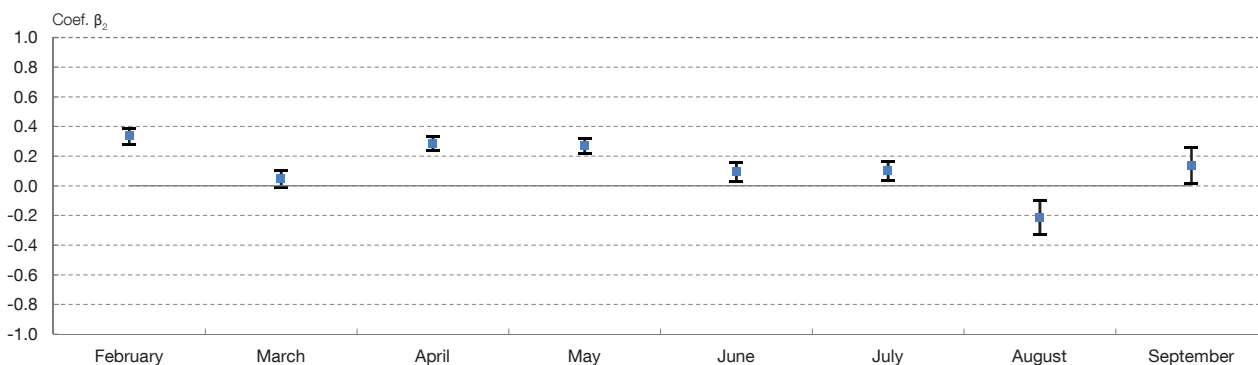
**SOURCE:** Authors' calculations, based on CCR data.

**NOTA:** Point estimate of the parameter  $\beta_2$ , the coefficient of interaction for the treated group after March, in the estimation with bank, firm and firm-time fixed effects, for all the banks considered, for cluster 2. Each point estimate of parameter  $\beta_2$ , coefficient of interaction treated \* entry into force of the recommendation, is indicated with a blue square. The vertical line represents the 95% confidence interval.

Chart 4

**DIFFERENTIAL EFFECT ON NEW LENDING OF SPANISH BANKS AFFECTED BY THE DIVIDEND RESTRICTIONS. CLUSTER 3**

In cluster 3, banks affected by the dividend restrictions granted significantly more credit from March (with respect to January) than banks that were not affected, except in August.



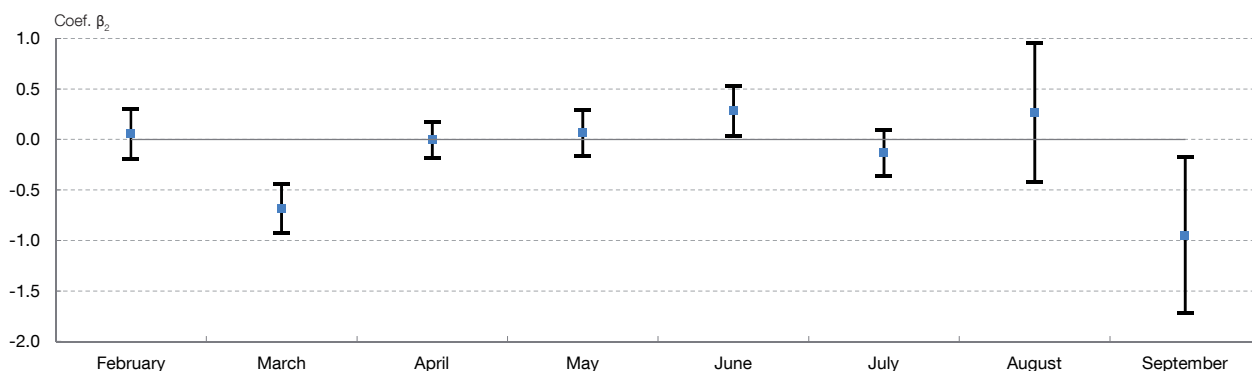
**SOURCE:** Authors' calculations, based on CCR data.

**NOTE:** Point estimate of the parameter  $\beta_2$ , the interaction coefficient for the treated group after March, in the estimation with bank, firm and firm-time fixed effects, for all the banks considered, for cluster 3. Each point estimate of parameter  $\beta_2$ , coefficient of interaction treated \* entry into force of the recommendation, is indicated with a blue square. The vertical line represents the 95% confidence interval.

Chart 5

**DIFFERENTIAL EFFECT ON NEW LENDING OF SPANISH BANKS AFFECTED BY THE DIVIDEND RESTRICTIONS. CLUSTER 4**

In cluster 4 we cannot say that banks affected by the dividend restrictions granted significantly more credit than unaffected banks, except in June.



**SOURCE:** Authors' calculations, based on CCR data.

**NOTE:** Point estimate of the parameter  $\beta_2$ , the interaction coefficient for the treated group after March, in the estimation with bank, firm and firm-time fixed effects, for all banks considered, for cluster 4. Each point estimate of parameter  $\beta_2$ , coefficient of interaction treated \* entry into force of the recommendation, is indicated with a blue square. The vertical line represents the 95% confidence interval.

Table 3

**NEW LENDING TO NON-FINANCIAL CORPORATIONS. LOANS WITH COVID-19 PUBLIC GUARANTEES**

Y = ln (Credit <sub>ijt</sub> )	(1)	(2)	(3)	(4)	(5)	(6)
Treated * Post * PG COVID-19	0.032* (0.017)	0.049*** (0.017)	0.185*** (0.017)	0.116*** (0.032)	-0.175*** (0.024)	0.022 (0.046)
Treated * Post	0.128*** (0.013)	0.133*** (0.013)	0.011 (0.014)	0.028 (0.028)	0.376*** (0.020)	0.126*** (0.042)
Treated * PG COVID-19	-0.351*** (0.014)	-0.381*** (0.014)	-0.194*** (0.016)	-0.079*** (0.026)	-0.250*** (0.020)	-0.019 (0.037)
Post * PG COVID-19	0.359*** (0.011)	0.344*** (0.011)	0.367*** (0.011)		0.496*** (0.016)	
Treated	0.637*** (0.010)					
Post	0.131*** (0.008)	0.148*** (0.008)	0.165*** (0.009)		0.013 (0.014)	
PG COVID-19	1.136*** (0.009)	1.147*** (0.009)			0.761*** (0.013)	
Constant	1.461*** (0.007)	1.721*** (0.005)	2.464*** (0.005)	3.331*** (0.009)	-0.810*** (0.015)	3.398*** (0.013)
Observations (millions)	1.704	1.704	1.392	0.611	0.728	0.315
R <sup>2</sup>	0.067	0.076	0.519	0.599	0.162	0.581
Bank effects	No	Yes	Yes	Yes	Yes	Yes
Firm effects	No	No	Yes	Yes	No	Yes
Firm-time effects	No	No	No	Yes	No	Yes
Firm controls	No	No	No	No	Yes	No
Restricted	No	No	No	No	No	5

**SOURCE:** Estimation based on CCR and CBSO data.

**NOTE:** This table reports the estimation of the coefficients of equation [1], considering in addition the effect on lending of the public guarantee lending support programmes (Royal Decree-Law 8/2020 of 17 March 2020, and subsequently by means of Royal Decree-Law 25/2020 of 3 July 2020). For this purpose the interaction of the variable Treated \* Post \* PG COVID-19 is included, the coefficient of which is a new parameter of interest along with the Treated \* Post interaction coefficient  $\beta_2$ . Treated is an index variable that takes the value 1 for banks affected by the dividend restrictions arising from Recommendation ECB/2020/19, and otherwise 0. Post is an index variable that takes the value 1 for the months April to September (after the entry into force of the recommendation) and 0 in January, February and March. PG COVID-19 is an index variable that takes the value 1 if the firms received during the period analysed a loan with a COVID-19 public guarantee. Column 1 reports the coefficients of the extended estimation to consider the effect of loans with guarantees and their interaction with the entry into force of Recommendation ECB 2020/19, as well as the triple interaction of Treated \* Post \* PG COVID-19, and the corresponding two-way interactions of these variables. In the following columns the model is progressively enriched to include bank fixed effects, in column 2; bank fixed effects and firm fixed effects in column 3; bank fixed effects, firm fixed effects and firm-time fixed effects in column 4; and bank fixed effects and firm controls in column 5. Column 6 replicates the specification of column 4 for the subsample of firms for which information is available on their characteristics from the Central Balance Sheet Data Office. The coefficients are listed in the first row, and their corresponding bank-level clustered robust standard errors are in brackets in the next row. The statistical significance levels are reported along with the coefficients, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

some type of public aid in the form of public guarantees for loans. In these estimates, a triple interaction is included which indicates whether the banks affected by the dividend restriction extend more lending to firms that have received this type of public aid after the entry into force of the restriction (and the aid) than those banks unaffected by the restriction. As in the previous instance, the model is progressively enriched so as to control for possible variables affecting credit supply and demand.

The results obtained, which Table 3 displays, suggest a possible feedback loop between the two measures, as a positive and statistically and economically significant coefficient is observed in the triple interaction. This result is robust to different samples and to the consideration of different clusters.

## Conclusions

According to the results obtained, the dividend restrictions appear to have had significantly positive and economically relevant effects on lending. This would be consistent with the hypothesis that banks use their extra capital to increase lending. The analysis, based on the evidence available after the first few months of the pandemic, suggests that banks subject to dividend restrictions (in the first half of 2020) lent more from the entry into force of Recommendation ECB/19/2020 than those not subject to such restrictions. It is important to point out that the analysis suggests that this effect occurs across different types of banks. The results are robust and significant for the months of April, May, June and July, although less consistency is found in the estimates for August and September.

The analysis of the importance of public guarantees appears to indicate that the interaction between these two measures is possibly relevant: the results suggest that banks that were unable to pay dividends provided significantly more credit after the restrictions to firms that have obtained loans with COVID-19 public guarantees.

In short, it is important to underline that this analysis focuses only on the impact dividend restrictions have had on the volume of lending, without considering their effect on the quality of lending, or whether credit has been channelled to more viable firms or those with brighter prospects. Given the evidence provided by this analysis of an increase in lending, an analysis of the quality and characteristics of the lending could be very relevant given the possible future effects of this additional lending. It should be noted here that the public support measures in response to the COVID-19 shock, and the provision of partially secured financing to firms, make it difficult to characterise the risk level of lending. A more detailed analysis could separate the differential effect of the various measures that have so far contributed to avoiding the emergence of substantial loan defaults during the current crisis.

15.3.2021.



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