Labor market shaping corporate finance decisions: when workers and firms borrow from the same bank

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Abstract

Are there economies of scope when banks lend to firms and to its' workers? Using unique administrative data on employment and lending facilities in Brazil, we show that when employees borrow from the same bank as their employer, firm loans are larger and cheaper. We also show that during the Covid-19 pandemic banks targeted subsidized government loans to the firms in which they had greater lending relationship with employees.

1. Introduction

> "*Employees are a company's greatest asset – they're your competitive advantage.*" Anne M. Mulcahy, former CEO of Xerox.

A fundamental question in finance and labor economics is whether firm financing and employment can influence each other. Although labor market frictions may alter business-level responsiveness (Decker et al., 2020), efficiency (Kaas and Kircher, 2015), risk (Favilukis, 2016), productivity (Autor et al., 2007) and capital expenditures (Chen et al., 2013), it remains unknown whether employee's borrowing preferences may shape corporate finance decisions.

In this paper we address a subtle, but still intriguing question: do firms benefit from borrowing from banks that also lend to their employees? To answer that, we use unique administrative data on employment in conjunction with credit bureau information for all firms and individuals in Brazil. Therefore, we can map firms' lending terms, but also their employees' borrowing activities at the same bank.

Prior literature has shown that firms' financial constraints can affect employment levels and wage (Adelino et al., 2017; Chodrow-Reich, 2013; Falato and Liang, 2016; Duygan-Bump et al., 2015; Chemmanur et al., 2013; Akyol et al., 2013; Guiso et al., 2013). Furthermore, corporate shocks affect workers' hiring quality (Brown and Matsa, 2016), employee's access to loans (Correia et

al., 2020) and earnings variability (Guiso et al., 2005). The feedback loop also takes place in the opposite direction, which is labor market frictions affecting firm financial decisions (Agarwal and Matsa, 2013; Schmalz, 2015; Serflin, 2016; Simintzi et al., 2014), firm creation (Acharaya et al., 2013) and default risk (Pan et al., 2018).

At the same time, the relationship banking literature has established evidence that banks invest in producing information about their borrowers over time (*e.g.*, Diamond, 1991; Petersen and Rajan, 1994), but only more recently this literature has been acknowledging multi-layered forms of bank relationship (Puri and Rocholl, 2008; Puri et al., 2017; Leão et al., 2020). In this paper, we claim that simultaneous bank lending to firms and their employees may affect corporate financing decisions. We provide evidence about a novel channel in which the labor and finance research may coalesce to the relationship banking literature.[1] More importantly, this channel is not reliant on interpersonal linkages (as in Engelberg et al., 2012; and Haselmann et al., 2018) or prior loan contracting by the firm executives (Karolyi, 2018), but rather in loans granted simultaneously to the firm and to *any* of the firm' employees.

In our initial tests, we document the lending terms for firms that borrow from the same bank as their employees. Since all our specifications embed bank-time

[1] One could also understand our work in the stakeholder-shareholder perspective. Employee-friendly practices and employee-satisfaction can influence to corporate financing conditions (Qian et al 2021, Chi and Chen 2021, Francis et al 2019). We see the employee-lending channel here described as a complement to these works.

and firm-time fixed effects, we are mechanically insulated from bank-side supply shocks (e.g., branch openings) and firm-side demand shocks (e.g., better or worse firms' outlooks), or variations in firms' creditworthiness. Therefore, we compare lending terms to the same firm across two or more banks that differ only in their lending portfolio to the firm' employees.

The results show that doubling the number of employees that borrow from the same bank as the firm translates into a 25% larger loan portfolio size at the firm level. This effect is monotonically increasing in the number of employees that have a common lending bank with the firm.

The reasons for the existence of this multi-layered bank-lending relationship could be explicit (*e.g.*, banks having branches or ATMs inside the firm's premises, or having employee salary accounts) or implicit (*e.g.*, banks acquire information about employees by providing financial services to the firm). We also acknowledge that bank branches, and sometimes also bank officers, are likely to be the same at both the firm and the employee level. Still, when we use models that account for any bank-firm time invariant heterogeneities, we still find qualitatively similar results.

A priori, it is not clear what is the direction of this cross-client relationship: whether employee borrowing causes firm's loan terms, or whether causality happens in the opposite direction. While we aim to address the former, we do not discard the existence of the latter. To tackle this reverse causality issue, we

leverage on the natural experiment provided by the Covid-19 crisis and the government interventions in the credit market.

In the early months of the Covid-19 pandemic, the Brazilian government launched a paycheck protection program (*Pese*). We find that a pre-existing lending relationship with a firm's employees induced *Pese* banks to provide better lending terms to the firms under this program: doubling the pre-pandemic number of employees that borrow from the same bank as the firm causes larger loan granting (19.3%). Nevertheless, on other government subsidized facilities (i.e., non-paycheck protection) a close lending relationship with a firm's employees appears to be a less important driver of the firm's borrowing terms in the aftermath of the Covid-19 pandemic.

We contribute to the current literature in two dimensions. First, we add to the recent literature studying governmental programs aimed at preserving jobs during the Covid-19 pandemic. Our results are comparable to many studies on the US PPP program, which show that the program allocation was deeply influenced by banking relationships prior to the pandemic (Granja et al., 2022; Balyuk et al., 2021), and that firm-specific (and not local economic conditions) played a central role (Cororaton and Rosen, 2021). We contribute by taking a different angle on the matter, by claiming that employee (same bank) borrowing should also be considered a driver of loan allocation when regulators design such policies.

Second, we show an additional channel which explains the interplay between firm's financing and hiring decisions. Our novelty here is that we document loan terms to firms and to employees that borrow from the same bank.

To summarize, in this paper we provide evidence that firms benefit when borrowing from the same bank as their employees. This relationship lending channel is relevant to policy makers, firms and employees. For instance, unionized workers could strengthen their bargain power by threatening to change their preferred lending bank. Regulators should also monitor such connections in order to prevent a tacit collusion between banks and firms (e.g., coerce employees to receive salaries through a specific bank). Finally, lending to firms and their employees may induce an intricate form of concentration risk, that might not be directly mapped by regulations on the matter.

This paper is structured as follows. Section 2 presents our hypotheses. Section 3 outlines our main data sources. Section 4 provides our identification strategy, whereas Section 5, the results. Section 6 concludes.

2. Hypotheses Development

Bank rents ultimately depends on information monopolies (Stiglitz and Weiss, 1981). That is why banks bear significant costs to gather exhaustive and timely data, both from new client screening and during monitoring routines.

The relationship banking literature has shown the importance of hard and soft information on corporate lending (*e.g.*, Liberti and Petersen, 2018). It is widely accepted that bank officers must know the firms' balance sheet, the management team, sector threats and opportunities, and so on.

Stakeholder knowledge can be also a competitive advantage in bank lending. For example, supply-chain and competitors' information are recognized as credible sources of data about a firm's creditworthiness (Valta, 2012; Campello and Gao, 2017; Huremovic et al., 2020; Alfaro et al., 2021). Alternatively, employees are one type of stakeholder that may also shape bank lending to the firm.

In Brazil, when a worker is hired by a medium-to-large firm, it is common practice to offer this employee a bank account in the same institution as the firm's preferred banker. This 'procedure' can be facilitated when the bank has an office or branch within the firm's premises (mainly on large firms) or when bank officers participate in the hiring process (e.g. handling bank account offers jointly with employment paperwork).

This practice has long been prone to public scrutiny and a specific regulation was passed to decrease workers' burden (CMN, 2006). After the new rule became effective in 2007, if the firm demands wage settlements to be done with a specific financial institution, either the firm (not the employee) is required to pay any individual account fees (*conta salário*), or the employees may automatically transfer wages to other banks without costs.

Notwithstanding, banks still have a competitive advantage when lending to employees and firms at the same time. In this paper, we take personal (*i.e.*, employees') loans as given and hypothesize that employee lending outcomes convey information about the firm they work for. This information channel may arise due to workers wage flows (*e.g.*, extra hour payments, salaries falling into arrears, etc.), worker's quality signaling (employees' loans functioning as a monitoring device) and firm-employee matching (firm's hiring and firing activities). To wit, we understand that, when a bank lends both to employees and the firm, it establishes relevant economies of scope. We translate this mechanism into our first hypothesis.

> **H1.** In normal times, a bank's lending terms to a firm are more favorable when the bank also lends to the firm's employees.

Nevertheless, we also acknowledge that financial institutions could be doubly harmed in the aftermath of a crisis, due to the cross-borrower contagion. Moreover, as it is documented in the 'standard' relationship banking literature, banks may favor (employee-intensive) relationship borrowers due to a better understanding of firm-level threats. That is why we claim that banks may favor firms with whose employees they have a pre-crisis relationship.

> **H2.** In the aftermath of a crisis, banks lend at more favorable terms to firms with whose employees they have a more intense lending relationship.

3. Data and Descriptive Statistics

In this paper, we merge two unique datasets from Brazil. The first dataset is the credit bureau from *Banco Central do Brasil* (Bustos et al., 2020; Ponticelli and Alencar, 2016; among others, use the same dataset). Importantly for our objectives, the credit bureau encompasses loans to both individuals and firms. Our sample filters only loans from commercial and multiple banks.[2]

We sample all firms with outstanding credit amounting to at least 1 million Brazilian reais (approximately 180 thousand US dollars) in the Brazilian banking system in any month between January 2019 and December 2021.[3] The reasoning for sampling only medium-to-large firms is to minimize any 'inside debt' effects between executives and the firm (Edmans and Liu, 2011; Dasgupta et al., 2022) and possible loans from the firm to cash-strapped employees (Hunt and Hayward, 2018). The loans to the firms in our sample amount to BRL 1.30 trillion, or 66% of the overall loans provided by banks to nonfinancial firms in Brazil, as of December 2021. We collect firm-to-bank monthly data for all sampling firms between January 2019 and December 2021.[4]

[2] These intermediaries account for approximately 80% of lending in the Brazilian banking system. We exclude cooperative banks, development banks and nonbanking institutions because their credit granting processes are typically different from those of commercial banks and because connection between workers and loan officers might foster different firm-bank relationships.

[3] This definition includes actual loans *and* any other type of contingent exposure (e.g., lines of credit). This filtering ends up adding firms that may use little or no bank debt.

[4] We only use 2018 data on year-lagged independent variables.

We then merge credit bureau information with employment registries from *Relação Annual de Informações Sociais* (RAIS). This data is gathered annually by the Ministry of Labor, covers all formal jobs within Brazil and it is considered a high-quality dataset. [5]

Provided we find a job relationship with one of our sampling firms, we track all individual (i.e., employees') borrowing outcomes in credit bureau. The credit bureau provides data on loans taken by individuals as long as their outstanding credit exposure at a bank is higher than BRL 200 (approximately 36 USD). Therefore, we have a quasi-universal coverage of employees' loans.

Table 1 shows the descriptive statistics for the main variables of this firm-bank-time sample. The average firm in our sample has BRL 1.74 million in loans with a bank, pays 34.85% in interest rates (per year), has a loan portfolio duration of 0.92 years (11 months) and a 2.00% default ratio.[6] This (average) firm has 50 employees that together borrow BRL 0.26 million from the same bank. Lastly, on average, only 2 workers have payroll-linked loans and less than one has real estate (i.e., a mortgage) loans with the same lending bank.[7]

[5] Lopes de Melo (2018), Dix-Carneiro and Kovak (2017), Helpman et al. (2017) and Dix-Carneiro (2014) among many others use the same dataset.

[6] The interest rate and duration are value-weighted figures for the firm-bank-time granularity. Interest rate calculus includes both fixed and floating rate loans. Duration is measured by using the middle point in each of the credit bureau arrears information (e.g. an amount to be paid between 15 and 30 days is considered to be due in 24 days). The default ratio is calculated by dividing the share of loans that are in arrears for 15 days or more by the total loan portfolio.

[7] Most of the individual's same-bank borrowing is on credit card and non-collateralized debt facilities.

Table 1 - Descriptive Statistics

Variable	Unit	Mean	p25	p50	p75	SD	N ('000)
Firm level data							
Loan	BRL Million	1.740	0.0700	0.340	1.060	4.930	7,704
Int. Rate	% per year	34.85	10.63	15.33	25	64.18	6,937
Duration	Years	0.920	0.250	0.790	1.370	0.760	7,704
Default rate	% of portfolio	0.0200	0	0	0	0.120	7,704
Employee level data							
Loan (all)	BRL Million	0.260	0.0100	0.0300	0.160	0.640	7,704
# same-bank borrowing (all)	#	50.17	2	5	16	812.8	7,704
# same-bank borrowing (payroll)	#	2	0	0	1	6.520	7,704
# same-bank borrowing (real estate)	#	0.860	0	0	0	2.490	7,704

Notes: On firm-level data, *Loan* is the outstanding loan portfolio of firm *i* at bank *b*; *Int. Rate (%)* is the value-weighted average interest rate for all fixed loans of firm *i* at bank *b* in month *t*; *Duration* is the duration of the loan portfolio of firm *i* at bank *b* in month *t*; *Default* is the ratio of loans in arrears for more than 14 days (%). On the employee-level data, *Loans (all)* is the outstanding loan portfolio of firm *i* employees; *# same-bank borrowing* is the number of firm *i* employees that borrow from bank *b*, and it can be any loans (*all*), payroll loan (*payroll*) or housing (*real estate*). Data are monthly, from jan/2019 to dec/2021.

4. Identification Strategy

In this section, we outline our twofold empirical strategy. We start by examining whether firms and employees are more prone to borrow from the same bank (section 4.1). We then present a set of tests which track firms' borrowing outcomes among banks that functioned or not as conduits of Covid-related facilities, differentiating by the employees' relationships to the bank (section 4.2).

4.1. How much does corporate and employee bank lending overlap?

In our initial set of models, we test if employers and employees are more prone to share the same lending bank institution (i.e., the correlation) and whether firms obtain better loan terms from the banks that lend more to their employees. We use the following panel-data model:

$$Loan_{i,b,t} = \alpha_0 + \alpha_1 * Ln\left(EmployeeLoans_{i,b,t-12}\right) + \delta_{i,t} + \mu_{b,t} + \varepsilon_{i,b,t} \quad (1)$$

We use four different measures for the dependent variable, $Loan_{i,b,t}$: i) the natural logarithm of the loan amount outstanding from bank b to firm i in month t; ii) the value-weighted average interest rate charged by bank b from firm i in month t; iii) the value-weighted average duration of the loans provided by bank b to firm i in month t. Our fourth dependent variable is firm i's ratio of loans from bank b that are in arrears for 15 days or more (in percentage value terms) in month t.

$EmployeeLoans_{i,b,t-12}$ is either a continuous variable equal to the loan amount outstanding between bank b to all firm i employees, or alternatively, the number of same-bank employee loan individuals (both measured twelve months before). The latter is our preferred specification. We saturate the model by including firm-by-month ($\delta_{i,t}$) and bank-by-month ($\mu_{b,t}$) fixed effects, to control for firm demand and bank supply shocks, respectively (Khwaja and Mian, 2008). The inclusion of these fixed effects limits our sample to firms with more than one lending relationship in each period. This is not a concern in terms of selection bias, as our sample is restricted to medium and large firms, which normally have more

than one bank relationship.[8] Therefore, we compare the lending terms to the same firm across two or more banks that differ only in their lending to the firm' employees.

Otherwise noted, we restrict to bank-firm pairs with at least two employees borrowing from the bank. This restriction aims to reduce any bias from owners or CEOs that borrow at the same bank as the firm; and filters out 11.9% of observations.

4.2. Firm-bank matching on Covid-19 lending facilities: did banks targeted borrowers with a pre-existent lending relationship?

A priori, it is not clear what is the direction of the cross-client relationships discussed here. It could be that employee borrowing causes firm loan terms, or the opposite (or both). To tackle this issue, we leverage on the natural experiment provided by the Covid-19 and different types of government interventions in the credit market.

In March 2020, Covid-19 hit Brazil. By April, several states entered a quasi-lockdown policy. The federal government, albeit opposing lockdown measures, deployed a batch of policy measures to mitigate the economic effects of the pandemic. For individuals, the most significant intervention was *Auxílio*

[8] We eliminate only 11.5% of observations with this filter.

Emergencial, a monthly cash transfer to non-employed and vulnerable families (Ministry of Citizenship, 2022).

For firms, in May 2020 the government created *Pronampe* (*Programa Nacional de Apoio às Microempresas e Empresas de Pequeno Porte*), a subsidized lending facility aimed at micro and small firms, which was operationalized through banks and became effective by June 2020 (Law 13,999/2020). Other similar interventions on SME lending aimed facilities guaranteed by credit card transactions (PEAC/MAQ) and investment-related loans (PEAC/FGI). On the liquidity side, some SMEs loans were granted favorable regulatory treatment status up to March 2022 (*Circular 4,033*).[9]

Finally, a key intervention related our research agenda was *Pese – Programa Emergencial de Suporte ao Emprego* (Law 14,043/2020). This lending facility was released in August 2020 and gave firms a two-month sign in period. *Pese* participants were granted a 4-month wage bill financing to be paid on 36 installments, provided the worker is not fired.[10]

[9] To a minor extent, the Brazilian government also deployed other measures to smooth out the negative Covid shock. One of these interventions is the *Programa Emergencial de Retomada do Setor de Eventos* (Perse), which was targeted on events-related firms. This program was small, focused on one specific sector and only deployed in the second half of 2021. Also, because our main specifications embed *firm * time* fixed effects, we understand that any intervention that is firm-specific (and not bank-firm specific) should not affect our results.

[10] The program was heavily subsidized. Interest rates were fixed at 3.75% per year, well below market rates. The program demanded that participants did not fire their employees for up to two months after the maturity of the loan, therefore locking-in employment for 6 months.

More importantly, *Pese* did specify that such financing was mandatory to be used exclusively on wage payments, and the firm owner had the fiduciary duty for the channeling the funds. Importantly, the law explicitly demanded that if the financial intermediary was also the firm's payroll handler, it must direct the money into the employees' accounts on a monthly basis. When combined, these wrinkles show that the legislator left some banks at an advantageous standpoint because of pre-existent payroll handling services provided to the firm.

We define March 2020 as the beginning of the Covid pandemic in Brazil. Accordingly, we build a difference-in-differences model, before and after Covid, for banks more or less exposed to loans to firms' employees:

$$Loan_{i,b,t,c} = \beta_0 + \beta_1 * Ln\left(EmployeeLoans_{i,b,t-12,c}\right) + \beta_2 * CovidBorrower_{i,b,c} + \beta_3 * Ln\left(EmployeeLoans_{i,b,t-12,c}\right) * CovidBorrower_{i,b,c} + \beta_4 * Ln\left(EmployeeLoans_{i,b,t-12,c}\right) * PostCovid_{t,c} + \beta_5 * CovidBorrower_{i,b,c} * PostCovid_{t,c} + \beta_6 * Ln\left(EmployeeLoans_{i,b,t-12,c}\right) * CovidBorrower_{i,b,c} * PostCovid_{t,c} + \delta_{i,t,c} + \mu_{b,t,c} + \varepsilon_{i,b,t,c} \quad (2)$$

We again use four different measures for the dependent variable, $Loan_{i,b,t}$: i) the natural logarithm of the loan amount outstanding from bank b to firm i in month t of cohort c; ii) the value-weighted average interest rate charged by bank b from firm i in month t of cohort c; iii) the value-weighted average duration of the loans provided by bank b to firm i; (iv) firm i's ratio of loans from bank b that are in arrears for 15 days or more (in percentage value terms).

$EmployeeLoans_{i,b,t-12}$ is a continuous variable equal to the number of firm's i employees that also borrow from bank b twelve months before t; $CovidBorrower_{i,b}$ is a dummy equal to one if the firm i has accessed Covid-19 related facilities through bank b, and it can be either *Pese*-loans, or alternatively, all other Covid-related facilities (non-*Pese*)[11]; $PostCovid_t$ is a dummy equal to one in the months following March 2020 (and zero otherwise).

We saturate the model by including firm-by-month ($\delta_{i,t}$) and bank-by-month ($\mu_{b,t}$) fixed effects, to control for firm demand and bank supply shocks, respectively (Khwaja and Mian, 2008), including firm size effects. Importantly, because our triple differences setup, in our main models we certify that, in each month, sampled firms have relationships with at least three banks: (i) a bank that did not lend Covid-19 government subsidized loans; (ii) and two (or more) other banks that functioned as conduits to *Pese* or, alternatively, all other Covid-19 related loans. This greatly reduces our sample from 140,282 unique firms to 1,016 or 14,014 on *Pese* and on all other Covid-19 related loans (non-*Pese*), respectively.[12]

[11] All non-*Pese* Covid-19 loans considered for this study are: (i) micro and small firms facility (*Pronampe*); (ii) SME credit card guaranteed (PEAC/MAQ); (iii) SME investment-related (PEAC/FGI); (iv) SME liquidity improving (*Circular 4,033*).

[12] The firms filtered here are more creditworthy than the previous subsection raw data: on *Pese* regression sample (all other non-*Pese* sample), the mean default ratio is 1.0% (or 0.5%). Regarding firm size, *Pese* sample (all other non-*Pese* sample) tilt towards smaller (larger) firms, as their average loan size with a bank are 0.42 million (2.42 million). In the Appendix we show the results without this filter on the number of *Pese* (all other non-*Pese* sample) banks.

Our coefficient of interest in equation (2) is β_6, which gauges how much a bank that functioned as conduit to government subsidized facilities discriminated among borrowing firms according to their employee borrowing status. Alternatively, one could read this coefficient as the degree to which government facilities changed the importance of employee relationships for a bank when setting firms' lending terms. A positive β_6 on loan amount and duration (or negative on interest rate) is an evidence that a bank's tight relationship with the firm's employees correlates with more favorable loan terms *post-shock* to the firm.

5. Results

5.1. The correlation between corporate and employee same bank lending

In order to measure the degree to which employers and employees share a same lending bank, we start by documenting the results from model (1), in which we add firm-time and bank-time fixed effects.[13]

Table 2 shows that when a firm that has more employees borrowing from the same bank, it receives better lending terms: doubling the number of borrowing employees' translates into 25.7% more loans (column 1), 1.0 percentage point lower interest rate (column 4), 3.9% longer duration (column 7) and a slightly

[13] From this point onwards, we filter our sample to bank-firm pairs with 2 or more employees borrowing from that bank. We do that to insulate from any confounding effects due to the owner or the CEO being the sole borrower at the bank, for example.

smaller share of loans in default (column 10). On columns 2, 5, 8 and 11 we change the independent variable from the number of borrowing employees to the amount of employee loans and find similar (albeit statistically insignificant in some cases) results. Lastly, on columns 3, 6, 9 and 12 of Table 2 we run models that incorporate both the number and the size of employee same-bank borrowing and show that the number of employee borrowers seems to be more correlated to firm' lending terms: that is why on the next set of results we present only this as the independent variable.

We then check if the aforementioned relationship is monotonic, separating the number of same bank borrowing employees into bins. Table 3 shows that this is indeed the case, and the more employees borrow from a bank, the more favorable are the firm's borrowing terms.

Table 2 - Firm and employee same-bank borrowing

VARIABLES	(1) Ln (Loans)	(2) Ln (Loans)	(3) Ln (Loans)	(4) Int. Rate (%)	(5) Int. Rate (%)	(6) Int. Rate (%)	(7) Ln (duration)	(8) Ln (duration)	(9) Ln (duration)	(10) Default (Ratio)	(11) Default (Ratio)	(12) Default (Ratio)
Ln(# same-bank employees)	0.2574***		0.2618***	-1.0467***		-1.5065***	0.0393***		0.0332**	-0.0017**		-0.0016**
	(0.0394)		(0.0459)	(0.2396)		(0.3673)	(0.0122)		(0.0148)	(0.0007)		(0.0007)
Ln(loans to employees)		0.0817***	-0.0040		-0.0725	0.4116***		0.0164***	0.0055		-0.0006**	-0.0000
		(0.0152)	(0.0133)		(0.0784)	(0.1406)		(0.0044)	(0.0047)		(0.0002)	(0.0002)
Observations	4,551,054	4,551,054	4,551,054	3,957,743	3,957,743	3,957,743	4,551,054	4,551,054	4,551,054	4,551,054	4,551,054	4,551,054
R-squared	0.5598	0.5576	0.5598	0.4954	0.4954	0.4954	0.5061	0.5060	0.5062	0.5717	0.5717	0.5717
Bank-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Clusters	60	60	60	60	60	60	60	60	60	60	60	60

Notes: *Loan*, *Int. Rate (%)*, *Duration* and *Default* are defined as in Table 1; # *same-bank employees* is the number of employees that borrow from the same bank as the firm; *loans to employees* is the loan portfolio of employees that borrow from the same bank as the firm. All independent variables are measured with a one-year lag. We denote significance at 10%, 5% and 1% with *, **, and ***, respectively. Robust standard errors clustered at the bank level are reported in parenthesis.

Table 3 - Firm and employee same-bank borrowing, separating the number of employees with (same-bank as the firm) loans into bins

VARIABLES	(1) Ln (Loans)	(2) Int. Rate(%)	(3) Ln (duration)	(4) Default (Ratio)
[10-49] same-bank employee	0.2847***	-0.8489***	0.0489***	-0.0021**
	(0.0442)	(0.2305)	(0.0166)	(0.0010)
[50-250] same-bank employee	0.5539***	-2.8974***	0.0820***	-0.0034**
	(0.0906)	(0.4968)	(0.0270)	(0.0014)
[250+] same-bank employee	0.8320***	-4.6712***	0.1403***	-0.0056***
	(0.1267)	(1.5268)	(0.0361)	(0.0017)
Observations	4,551,054	3,957,743	4,551,054	4,551,054
R-squared	0.5587	0.4954	0.5063	0.5717
Bank-Time FE	YES	YES	YES	YES
Firm-Time FE	YES	YES	YES	YES
Clusters	60	60	60	60

Notes: *Loan*, *Int. Rate (%)*, *Duration* and *Default* are defined as in Table 1; [*m-n] same-bank employee* are dummy variables that equal to one when the number of employees with loans in the same bank as the firm is between *m* and *n*, and zero otherwise (baseline is [2-9] same-bank employee borrowers). All independent variables are measured with a one-year lag. We denote significance at 10%, 5% and 1% with *, **, and ***, respectively. Robust standard errors clustered at the bank level are reported in parenthesis.

Going further, we check if the intensity of employee relationships is also a relevant driver to firm lending terms. The results in Table 4 show that if the bank is the main banker for the employees, it lends 12.8% more to the firm (column 1), with longer duration (+2.5%, column 3) and less risk (-0.1% default ratio, column 4). These effects suggest that a tight relationship to employees convey valuable information to banks when setting loan terms to the firms.

Table 4 – Main Bank of the Firm and the Employees

VARIABLES	(1) Ln (Loans)	(2) Int. Rate (%)	(3) Ln (duration)	(4) Default (Ratio)
Main Bank employees (dummy)	0.1276***	0.1625	0.0248***	-0.0010***
	(0.0204)	(0.2092)	(0.0049)	(0.0003)
Observations	4,550,221	3,956,961	4,550,221	4,550,221
R-squared	0.5570	0.4954	0.5063	0.5717
Bank-Time FE	YES	YES	YES	YES
Firm-Time FE	YES	YES	YES	YES
Clusters	60	60	60	60

Notes: *Loan*, *Int. Rate (%)*, *Duration* and *Default* are defined as in Table 1; *Main Bank employees* is a dummy variable equal to one for the bank that grant more loans to the employees of a firm, zero otherwise. All independent variables are measured with a one-year lag. We denote significance at 10%, 5% and 1% with *, **, and ***, respectively. Robust standard errors clustered at the bank level are reported in parenthesis.

In the Appendix we provide further results that support the previous inferences. First, in Table A.1 we re-run model (1) on cross-sectional data and find qualitatively similar outcomes: the more the employees share a common lending bank to the firm, the higher is the loan size and duration, and the lower is the interest rate and firm's default ratio. Second, using the amount and the interest rate of *new* loans (i.e., a flow, not a stock measure) also result in similar inferences, albeit non-statistically significant for duration (see Tables A.2 and A.3). Third, to rule out any time-invariant heterogeneities, we build a model with firm-bank fixed effects: the coefficients in these specifications are smaller in magnitude, but not on their signs (Table A.4).

5.2. Did banks favor firms with more same bank borrowing employees in the allocation of Covid-19 subsidized loans?

In the previous subsection, we have shown that firms whose employees borrow from the same bank as the firm experience better lending terms. It is not clear, though, what is the direction of this cross-client relationship: whether employee borrowing causes firm's loan terms, or whether the causality happens in the opposite direction. To address this reverse causality issue, we leverage on the natural experiment provided by the Covid-19 crisis and the Brazilian government interventions in the credit market.

If lending to employees do convey information to banks when setting loan terms to firms, this could dampen information asymmetries during systemic crisis, like Covid-19. We also acknowledge that paycheck-related interventions could have distinct effects on this channel because of its unique characteristics on firm-employee relationships. That is why we estimate equation (2), initially separating bank-firm pairs between *Pese* participants and non-*Pese* participants (i.e. banks that functioned as conduits the government paycheck protection program and those that did not).

The first coefficient reported in columns 1-4 of Table 5 show that, for lending relationships (i.e., bank-firm pairs) in which *Pese* facilities were used, in the pre-pandemic period, doubling the number of pre-pandemic employees with loans in the same bank yields an additional 34.1% in loans (column 1), with no difference

on interest rates, duration and default ratios (columns 2-4, respectively). The coefficient of *Ln(#Same bank employees) * Post* in the same columns indicate that the interest rates decline by 8.6 percentage points and the duration increases by 15.0% after the start of pandemic (columns 2 and 3, respectively).

Columns 5 to 8 of Table 5 show that *Pese* banks lent at better terms (first coefficient) prior to the pandemic, and that these terms became even better after the Covid, resulting in larger lending (21.6%), cheaper loans (11.1 pp), greater loan duration (38.3%) and only a marginal higher post Covid-19 default ratio (second coefficient of columns 5 to 8, respectively).

Finally, columns 9 to 12 of Table 5 present the 'full' model (2). Our main coefficient of interest here is β_6, i.e., the triple interaction. It shows that comparing among *Pese*-conduit banks, one bank with double the number of same-bank borrowing employees entails a 19.3% increase in the amount of loans (column 9), and no statistical difference on other loan terms (columns 10-12).[14]

In Figure 1, we report the estimation of a non-parametric version of equation 2 (i.e., we breakdown β_6 month by month). These results confirm that the effects reported in Table 5 only start after the beginning of the pandemic and did not fade away up to the end of 2021.[15]

[14] Table A.5 in the Appendix shows this same test on new loans (instead of loans' stock) data, with qualitatively similar findings.

[15] Table A.6 shows the same regression as Table 5 (i.e., stock data), but with no restriction on the number of *Pese* banks. Analogously, Figure A.1 replicates Figure 1 on this non-restricted sample. Both show qualitatively similar results.

In Table 6, we move our analysis to all other government Covid-related facilities (i.e., our focus here is at non-paycheck Covid-19 facilities). Columns 9 to 12 of Table 6 present the 'full' model. Comparing it to the paycheck results (Table 5), it is interesting to note that the interaction between banks functioning as conduits to Covid-related facilities and employee borrowing (i.e. how many employees borrow from the same bank) is a lesser important driver of firm lending terms: doubling the number of same-bank borrowing employees yields only 7.3% more loans (column 8), and there is no difference on interest rates, duration or default ratio (columns 9 to 12, respectively).[16] On top of that, Figure 2 indicate that these effects almost vanished by the end of 2021.[17]

[16] Table A.7 in the Appendix show this same test on new loans (instead of loans' stock) data.

[17] Table A.8 shows the same regression as Table 6 (i.e. stock data), but with no restriction on the number of *All other Covid-19 Facilities (non Pese)* banks. Analogously, Figure A.2 replicates Figure 2 on this non-restricted sample. Both show qualitatively similar results.

Table 5 – *Pese* Facility Bank and Firm Lending

VARIABLES	(1) Ln(Loans)	(2) Int. Rate (%)	(3) Ln(duration)	(4) Default (Ratio)	(5) Ln(Loans)	(6) Int. Rate (%)	(7) Ln(duration)	(8) Default (Ratio)	(9) Ln(Loans)	(10) Int. Rate (%)	(11) Ln(duration)	(12) Default (Ratio)
Ln(# same-bank employees)	0.3412***	-0.4274	0.0508	-0.0013					0.1299	3.2117	0.0132	0.0001
	(0.0725)	(3.6327)	(0.0520)	(0.0011)					(0.1041)	(4.4631)	(0.0213)	(0.0011)
Pese					0.5740***	-6.3275**	0.0333	-0.0033**	0.4665***	-4.7649	-0.0838	-0.0026
					(0.0647)	(2.6010)	(0.0592)	(0.0013)	(0.1492)	(5.1835)	(0.1397)	(0.0019)
Ln(# same-bank employees) * Pese									0.0226	-1.1511	0.0453	-0.0003
									(0.0673)	(2.1767)	(0.0731)	(0.0004)
Ln(# same-bank employees) * Post	0.1145	-8.5712*	0.1498***	-0.0009					-0.1348	-2.2018	-0.0237	-0.0001
	(0.0687)	(4.1382)	(0.0496)	(0.0016)					(0.1117)	(3.2363)	(0.0225)	(0.0027)
Pese Borrower * Post					0.2163***	-11.0836**	0.3828***	-0.0020*	-0.2375	-1.7272	0.3508**	-0.0025
					(0.0550)	(3.7283)	(0.0373)	(0.0010)	(0.1666)	(6.8979)	(0.1198)	(0.0044)
Ln(# same-bank employees) * Pese * Post									0.1928**	-3.1972	0.0136	0.0002
									(0.0706)	(2.3851)	(0.0452)	(0.0018)
Observations	65,307	62,283	65,307	65,307	65,307	62,283	65,307	65,307	65,307	62,283	65,307	65,307
R-squared	0.4378	0.4905	0.4796	0.4982	0.4615	0.4966	0.4949	0.4987	0.4647	0.4971	0.4955	0.4987
Bank-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Clusters	16	15	16	16	16	15	16	16	16	15	16	16

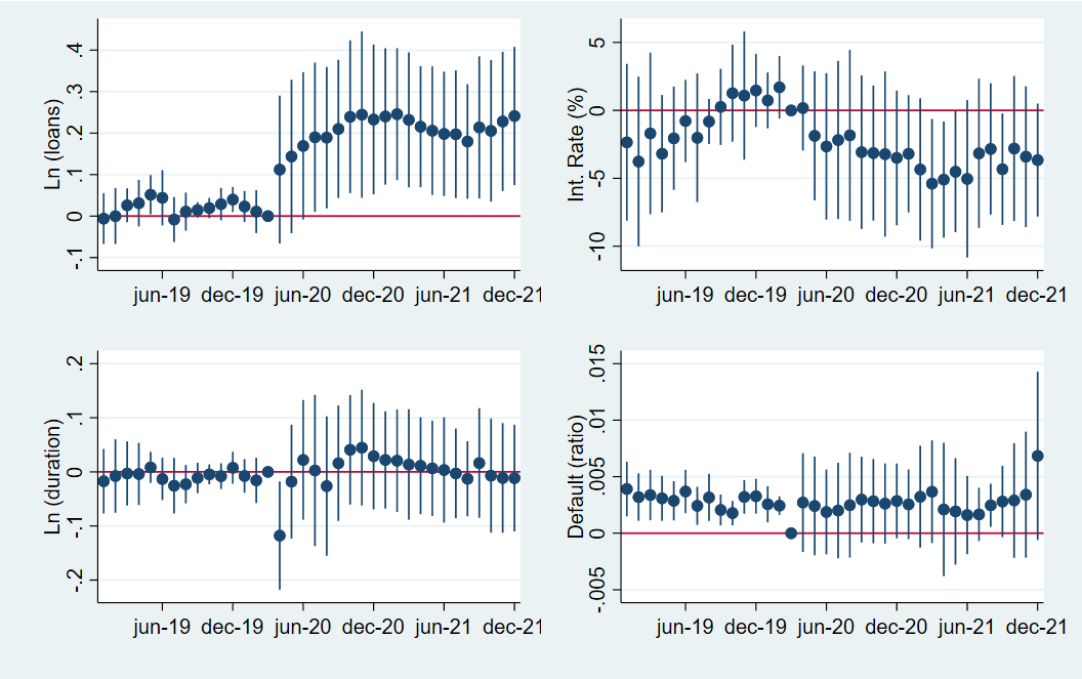
Notes: *Loan*, *Int. Rate (%)*, *Duration* and *Default* are defined as in Table 1; # *same-bank employees* is the number of employees that borrow from the same bank as the firm; *Pese* is a dummy variable equal to one if the firm *i* used bank *b* as it's conduit for the *Pese* loans (a paycheck protection program during Covid-19); *Post* is a dummy variable equal to one after march 2020. All independent variables are measured with a one-year lag. We denote significance at 10%, 5% and 1% with *, **, and ***, respectively. Robust standard errors clustered at the bank level are reported in parenthesis.

Table 6 – All other Covid-19 Facilities (non *Pese*) bank and Firm Lending

VARIABLES	(1) Ln(Loans)	(2) Int. Rate (%)	(3) Ln(duration)	(4) Default (Ratio)	(5) Ln(Loans)	(6) Int. Rate (%)	(7) Ln(duration)	(8) Default (Ratio)	(9) Ln(Loans)	(10) Int. Rate (%)	(11) Ln(duration)	(12) Default (Ratio)
Ln(# same-bank employees)	0.3056***	-1.5842**	0.0511**	-0.0002					0.2680***	-1.4751*	0.0385	0.0002
	(0.0356)	(0.7800)	(0.0232)	(0.0003)					(0.0399)	(0.8074)	(0.0245)	(0.0004)
Covid Facility (dummy)					0.5665***	-7.4316***	0.0865***	-0.0021***	0.4981***	-9.1460***	0.0344	-0.0007
					(0.0608)	(1.8401)	(0.0240)	(0.0004)	(0.0773)	(1.8785)	(0.0505)	(0.0010)
Ln(# same-bank employees) * Covid Facility									0.0165	0.6715	0.0178	-0.0005
									(0.0226)	(0.5020)	(0.0140)	(0.0004)
Ln(# same-bank employees) * Post	-0.0630**	-0.3929	0.0116	-0.0002					-0.1350***	-0.2691	-0.0329	-0.0004
	(0.0254)	(0.3422)	(0.0167)	(0.0003)					(0.0310)	(0.4044)	(0.0219)	(0.0005)
Covid Facility Borrower * Post					0.8204***	-7.0703***	0.6609***	-0.0018**	0.6331***	-8.3322***	0.5936***	-0.0034*
					(0.1057)	(1.9877)	(0.0568)	(0.0009)	(0.1194)	(2.4930)	(0.0791)	(0.0018)
Ln(# same-bank employees) * Covid Facility * Post									0.0727**	0.4639	0.0255	0.0006
									(0.0299)	(0.4397)	(0.0160)	(0.0005)
Constant	12.7409***	32.0602***	5.3714***	0.0047***	12.8563***	33.5579***	5.2507***	0.0055***	12.4086***	37.9787***	5.2131***	0.0057***
	(0.1281)	(1.8434)	(0.0596)	(0.0003)	(0.0426)	(0.6901)	(0.0170)	(0.0004)	(0.1367)	(2.2544)	(0.0430)	(0.0006)
Observations	673,102	629,255	673,102	673,102	673,102	629,255	673,102	673,102	673,102	629,255	673,102	673,102
R-squared	0.5534	0.4461	0.4330	0.4677	0.6077	0.4559	0.4942	0.4686	0.6109	0.4561	0.4948	0.4686
Bank-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Clusters	38	38	38	38	38	38	38	38	38	38	38	38

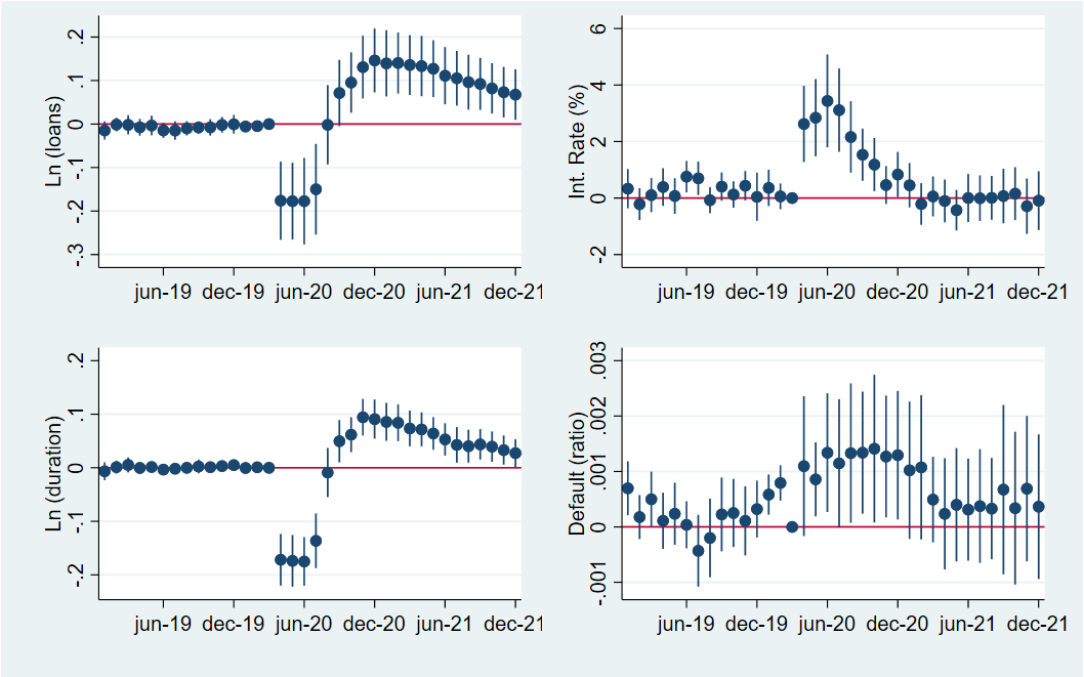
Notes: *Loan*, *Int. Rate (%)*, *Duration* and *Default* are defined as in Table 1; # *same-bank employees* is the number of employees that borrow from the same bank as the firm; *Covid Facility* is a dummy variable equal to one if the firm *i* used bank *b* as it's conduit for the covid-19 related loans (except from *Pese*); *Post* is a dummy variable equal to one after march 2020. All independent variables are measured with a one-year lag. We denote significance at 10%, 5% and 1% with *, **, and ***, respectively. Robust standard errors clustered at the bank level are reported in parenthesis.

Figure 1 – *Pese* Facility Bank * Employee same-bank borrowing



Notes: *Loan*, *Int. Rate (%)*, *Duration* and *Default* are defined as in Table 1. The specification is equivalent to model (2) but separating the β_6 (interaction between *Pese* and employee same-bank borrowing) into monthly betas, here shown. The bars are at 95% confidence interval. Data are from January-2019 to December-2021, monthly based.

Figure 2 – All other Covid-19 facilities bank * Employee same-bank borrowing



Notes: *Loan*, *Int. Rate (%)*, *Duration* and *Default* are defined as in Table 1. The specification is equivalent to model (2) but separating the β_6 (interaction between all other government Covid-19 loan facilities and employee same-bank borrowing) into monthly betas, here shown. The bars are at 95% confidence interval. Data are from January-2019 to December-2021, monthly based.

6. Conclusion

In this paper we provide empirical evidence that employee borrowing preferences may shape corporate finance outcomes through a novel channel. We show that a bank common-lending relationship with employees prompt better loan terms to the firm (i.e., the employer). Importantly, this effect does not stem only from executives or a few managers having prior connections to the bank, but rather to firm-wide lending relationships between employees and the bank.

The data gathered here indicate that during Covid-19 banks targeted government subsidized loans to firms with whom they had a pre-existent relationship, something that prior literature has already shown. Moreover, we also show that the type of government intervention and the degree of employee lending relationships to the bank also do matter.

Our results should be taken with caution by regulators. On one hand, the intricate firm-bank-employee relationship seems to reduce information asymmetries at the corporate level. On the other, a possible collusion between firms and banks may benefit corporate financing at the expense of workers' surplus. Finally, government interventions should acknowledge the interconnectedness between these parties and its possible spillovers.

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APPENDIX

Table A.1 - Cross Section regressions

Panel A - Firm Loan Size and employee same-bank borrowing

VARIABLES	(1) Ln (loans)	(2) Ln (loans)	(3) Ln (loans)	(4) Ln (loans)	(5) Ln (loans)	(6) Ln (loans)
Ln(# same-bank employees)	0.2902***	0.2616***	0.2440***	0.2597***	0.2429***	0.2568***
	(0.0378)	(0.0371)	(0.0403)	(0.0459)	(0.0436)	(0.0480)
Observations	123,519	124,249	127,809	134,364	132,707	114,215
R-squared	0.5598	0.5571	0.5613	0.5511	0.5499	0.5739
Bank FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES
Period	Jun-19	Dez-19	Jun-20	Dez-20	Jun-21	Dez-21
Clusters	49	47	48	49	49	49

Panel B - Firm Loan Size and employee same-bank borrowing (separated into bins)

VARIABLES	(1) Ln (loans)	(2) Ln (loans)	(3) Ln (loans)	(4) Ln (loans)	(5) Ln (loans)	(6) Ln (loans)
[10-49] same-bank employee	0.3204***	0.2716***	0.2619***	0.2996***	0.2761***	0.3200***
	(0.0381)	(0.0422)	(0.0478)	(0.0512)	(0.0594)	(0.0596)
[50-250] same-bank employee	0.6120***	0.5502***	0.5142***	0.5775***	0.5312***	0.5818***
	(0.0925)	(0.0821)	(0.1001)	(0.1089)	(0.1136)	(0.1067)
[250+] same-bank employee	1.0213***	0.7684***	0.7754***	0.8165***	0.7470***	0.7159***
	(0.1277)	(0.1238)	(0.1348)	(0.1332)	(0.1703)	(0.1987)
Observations	123,519	124,249	127,809	134,364	132,707	114,215
R-squared	0.5585	0.5558	0.5602	0.5501	0.5489	0.5730
Bank FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES
Period	Jun-19	Dez-19	Jun-20	Dez-20	Jun-21	Dez-21
Clusters	49	47	48	49	49	49

Table A.1 - Cross Section regressions (cont.)

Panel C - Firm's Interest Rate and employee same-bank borrowing

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Int. Rate(%)	Int. Rate(%)	Int. Rate(%)	Int. Rate(%)	Int. Rate(%)	Int. Rate(%)
Ln(# same-bank employees)	-1.1031*	-0.3871	-1.1268**	-1.1598**	-1.5747***	-2.4986***
	(0.6284)	(0.4958)	(0.4373)	(0.5562)	(0.5268)	(0.4726)
Observations	106,368	105,184	113,087	117,587	116,243	98,119
R-squared	0.5072	0.5006	0.4692	0.4634	0.4600	0.4872
Bank FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES
Period	Jun-19	Dez-19	Jun-20	Dez-20	Jun-21	Dez-21
Clusters	47	46	48	48	49	48

Panel D - Firm's Interest Rate and number of Same-Bank Employee-Firm borrowing (sep. into bins)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Int. Rate(%)	Int. Rate(%)	Int. Rate(%)	Int. Rate(%)	Int. Rate(%)	Int. Rate(%)
[10-49] same-bank employee	-0.4920	0.5495	-0.5231	-1.2089**	-2.3474***	-3.3147***
	(0.6040)	(0.5981)	(0.3551)	(0.5957)	(0.7544)	(0.5599)
[50-250] same-bank employee	-1.8964*	-1.2532	-1.9038*	-3.5833***	-4.6305***	-7.4119***
	(0.9653)	(0.8862)	(0.9618)	(1.2455)	(1.2066)	(1.4227)
[250+] same-bank employee	-6.9237**	-4.9074***	-3.4259	-3.5331**	-3.6102*	-6.8805**
	(3.0867)	(1.7236)	(2.7954)	(1.3953)	(2.0433)	(2.6961)
Observations	106,368	105,184	113,087	117,587	116,243	98,119
R-squared	0.5072	0.5007	0.4691	0.4634	0.4601	0.4872
Bank FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES
Period	Jun-19	Dez-19	Jun-20	Dez-20	Jun-21	Dez-21
Clusters	47	46	48	48	49	48

Table A.1 - Cross Section regressions (cont.)

Panel E - Firm's Loan Duration and employee same-bank borrowing

VARIABLES	(1) Ln(duration)	(2) Ln(duration)	(3) Ln(duration)	(4) Ln(duration)	(5) Ln(duration)	(6) Ln(duration)
Ln(# same-bank employees)	0.0268**	0.0232**	0.0513***	0.0582***	0.0532***	0.0447***
	(0.0102)	(0.0105)	(0.0144)	(0.0192)	(0.0150)	(0.0138)
Observations	123,519	124,249	127,809	134,364	132,707	114,215
R-squared	0.4910	0.4995	0.4919	0.4976	0.5002	0.5337
Bank FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES
Period	Jun-19	Dez-19	Jun-20	Dez-20	Jun-21	Dez-21
Clusters	49	47	48	49	49	49

Panel F - Firm's Loan Duration and employee same-bank borrowing (separated into bins)

VARIABLES	(1) Ln(duration)	(2) Ln(duration)	(3) Ln(duration)	(4) Ln(duration)	(5) Ln(duration)	(6) Ln(duration)
[10-49] same-bank employee	0.0161	0.0214*	0.0822***	0.0763***	0.0773***	0.0619***
	(0.0145)	(0.0124)	(0.0214)	(0.0249)	(0.0223)	(0.0219)
[50-250] same-bank employee	0.0493*	0.0533**	0.0701*	0.1202***	0.1343***	0.0927***
	(0.0292)	(0.0236)	(0.0375)	(0.0421)	(0.0366)	(0.0313)
[250+] same-bank employee	0.1364***	0.1079***	0.1084**	0.1517***	0.1852***	0.1239**
	(0.0444)	(0.0170)	(0.0436)	(0.0475)	(0.0530)	(0.0492)
Observations	123,519	124,249	127,809	134,364	132,707	114,215
R-squared	0.4913	0.4996	0.4921	0.4975	0.5003	0.5337
Bank FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES
Period	Jun-19	Dez-19	Jun-20	Dez-20	Jun-21	Dez-21
Clusters	49	47	48	49	49	49

Table A.1 - Cross Section regressions (cont.)

Panel G - Firm's Default ratio and employee same-bank borrowing

VARIABLES	(1) Default(ratio)	(2) Default(ratio)	(3) Default(ratio)	(4) Default(ratio)	(5) Default(ratio)	(6) Default(ratio)
Ln(# same-bank employees)	-0.0022**	-0.0027***	-0.0025**	-0.0008	-0.0016*	-0.0009
	(0.0010)	(0.0006)	(0.0010)	(0.0006)	(0.0009)	(0.0006)
Observations	123,519	124,249	127,809	134,364	132,707	114,215
R-squared	0.5768	0.6002	0.5564	0.5397	0.5400	0.6113
Bank FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES
Period	Jun-19	Dez-19	Jun-20	Dez-20	Jun-21	Dez-21
Clusters	49	47	48	49	49	49

Panel H - Firm's Default ratio and employee same-bank borrowing (separated into bins)

VARIABLES	(1) Default(ratio)	(2) Default(ratio)	(3) Default(ratio)	(4) Default(ratio)	(5) Default(ratio)	(6) Default(ratio)
[10-49] same-bank employee	-0.0021	-0.0037***	-0.0029	-0.0001	-0.0018	-0.0015**
	(0.0015)	(0.0011)	(0.0021)	(0.0009)	(0.0013)	(0.0007)
[50-250] same-bank employee	-0.0032	-0.0054***	-0.0052*	-0.0010	-0.0039**	-0.0017
	(0.0021)	(0.0010)	(0.0028)	(0.0007)	(0.0016)	(0.0018)
[250+] same-bank employee	-0.0096***	-0.0079***	-0.0098***	-0.0003	-0.0054**	-0.0026*
	(0.0035)	(0.0024)	(0.0030)	(0.0018)	(0.0021)	(0.0014)
Observations	123,519	124,249	127,809	134,364	132,707	114,215
R-squared	0.5768	0.6002	0.5564	0.5397	0.5400	0.6113
Bank FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES
Period	Jun-19	Dez-19	Jun-20	Dez-20	Jun-21	Dez-21
Clusters	49	47	48	49	49	49

Notes: *Loan*, *Int. Rate (%)*, *Duration* and *Default* are defined as in Table 1; *# same-bank employees* is the number of employees that borrow from the same bank as the firm; [*m-n] same-bank employee* are dummy variables that equal to one when the number of employees with loans in the same bank as the firm is between *m* and *n*, and zero otherwise (baseline is [2-9] same-bank employee borrowers). All independent variables are measured with a one-year lag. We denote significance at 10%, 5% and 1% with *, **, and ***, respectively. Robust standard errors clustered at the bank level are reported in parenthesis.

Table A.2 - Descriptive Statistics for New Loans

Variable	Unit	Mean	p25	p50	p75	SD	N ('000)
Firm level data							
Loan	BRL Million	0.760	0.0700	0.210	0.630	1.480	1,548
Int. Rate	% per year	83.62	12.14	20.40	90.57	122.1	1,535
Duration	Years	0.500	0.0400	0.120	0.740	0.700	1,548
Employee level data							
Number of same-bank emplyees	#	63.42	3	7	21	611.0	1,548

Notes: On firm-level data, *Loan* is the size of new loans borrowed by firm *i* at bank *b*; *Int. Rate (%)* is the value-weighted average interest rate for all new loans of firm *i* at bank *b* in month *t*; *Duration* is the duration of the new loan portfolio of firm *i* at bank *b* in month *t*. On the employee-level data, # *same-bank borrowing* is the number of firm *i* employees that borrow from bank *b*. Data are monthly, from jan/2019 to dec/2021.

Table A.3 - New Loans

VARIABLES	(1) Ln(New Loans)	(2) Int. Rate (%)	(3) Ln(duration)
Ln(# same-bank employees)	0.0810***	-2.6024***	-0.0081
	(0.0263)	(0.9055)	(0.0119)
Observations	575,047	568,062	575,047
R-squared	0.6735	0.6266	0.6598
Bank-Time FE	YES	YES	YES
Firm-Time FE	YES	YES	YES
Clusters	51	51	51

Notes: *New Loans*, *Int. Rate (%)* and *Duration* are defined as in Table A.2; # *same-bank borrowing* is the number of firm *i* employees that borrow from bank *b*. All independent variables are measured with a one-year lag. We denote significance at 10%, 5% and 1% with *, **, and ***, respectively. Robust standard errors clustered at the bank level are reported in parenthesis.

Table A.4 - Firm and employee same-bank lending (with firm * bank FE)

VARIABLES	(1) Ln (Loans)	(2) Ln (Loans)	(3) Ln (Loans)	(4) Int. Rate (%)	(5) Int. Rate (%)	(6) Int. Rate (%)	(7) Ln (duration)	(8) Ln (duration)	(9) Ln (duration)	(10) Default (Ratio)	(11) Default (Ratio)	(12) Default (Ratio)
Ln(# same-bank employees)	0.0605***		0.0674***	-0.5348***		-0.6174***	0.0521***		0.0508***	0.0004		0.0004
	(0.0099)		(0.0108)	(0.1626)		(0.1511)	(0.0093)		(0.0100)	(0.0003)		(0.0004)
Ln(loans to employees)		0.0033	-0.0065**		-0.0116	0.0777		0.0086***	0.0012		0.0001	0.0000
		(0.0027)	(0.0029)		(0.1113)	(0.1165)		(0.0019)	(0.0019)		(0.0001)	(0.0002)
Observations	4,533,350	4,533,350	4,533,350	3,938,555	3,938,555	3,938,555	4,533,350	4,533,350	4,533,350	4,533,350	4,533,350	4,533,350
R-squared	0.8906	0.8906	0.8906	0.8177	0.8177	0.8177	0.8247	0.8246	0.8247	0.7752	0.7752	0.7752
Bank-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm-Bank FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Clusters	60	60	60	60	60	60	60	60	60	60	60	60

Notes: *Loan*, *Int. Rate (%)*, *Duration* and *Default* are defined as in Table 1; # *same-bank employees* is the number of employees that borrow from the same bank as the firm; *loans to employees* is the loan portfolio of employees that borrow from the same bank as the firm. All independent variables are measured with a one-year lag. We denote significance at 10%, 5% and 1% with *, **, and ***, respectively. Robust standard errors clustered at the bank level are reported in parenthesis.

Table A.5 - New Loans and Pese Bank

VARIABLES	(1) Ln(Loans)	(2) Int. Rate (%)	(3) Ln(duration)	(4) Ln(Loans)	(5) Int. Rate (%)	(6) Ln(duration)	(7) Ln(Loans)	(8) Int. Rate (%)	(9) Ln(duration)
Ln(# same-bank employees)	-0.0392	-18.0453	-0.0249				-0.1475	6.7751	-0.0123
	(0.2019)	(13.3253)	(0.1151)				(0.1748)	(14.3146)	(0.1755)
Pese Borrower				0.3465***	-40.3683*	-0.1771**	0.6686**	-17.6414	-0.4148
				(0.0852)	(18.1639)	(0.0552)	(0.2249)	(35.1667)	(0.2948)
Ln(# same-bank employees) * Pese Borrower							-0.1064	-10.3864	0.0988
							(0.1027)	(13.8414)	(0.1237)
Ln(# same-bank employees) * Post	0.0247	12.8749	0.3273***				0.0431	5.6517	0.1790
	(0.2088)	(22.4851)	(0.0369)				(0.2630)	(19.6081)	(0.1437)
Pese Borrower * Post				-0.2686**	15.5987	0.5273***	-0.7172**	10.3047	0.6351***
				(0.1073)	(15.3752)	(0.0768)	(0.2383)	(27.7673)	(0.1401)
Ln(# same-bank employees) * Pese Borrower * Post							0.1698*	1.9318	-0.0720
							(0.0899)	(11.2855)	(0.1020)
Observations	3,113	3,104	3,113	3,113	3,104	3,113	3,113	3,104	3,113
R-squared	0.4754	0.5788	0.6394	0.4798	0.5887	0.6427	0.4818	0.5896	0.6446
Bank-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Clusters	9	8	9	9	8	9	9	8	9

Notes: *Loan*, *Int. Rate (%)*, *Duration* and *Default* are defined as in Table A.2; # *same-bank employees* is the number of employees that borrow from the same bank as the firm; *Pese* is a dummy variable equal to one if the firm *i* used bank *b* as it's conduit for the *Pese* loans (a paycheck protection program during Covid-19); *Post* is a dummy variable equal to one after march 2020. All independent variables are measured with a one-year lag. We denote significance at 10%, 5% and 1% with *, **, and ***, respectively. Robust standard errors clustered at the bank level are reported in parenthesis.

Table A.6 - Pese Facility Bank and Firm Borrowing (with no filter on the number of Pese banks)

VARIABLES	(1) Ln(Loans)	(2) Int. Rate (%)	(3) Ln(duration)	(4) Default (Ratio)	(5) Ln(Loans)	(6) Int. Rate (%)	(7) Ln(duration)	(8) Default (Ratio)	(9) Ln(Loans)	(10) Int. Rate (%)	(11) Ln(duration)	(12) Default (Ratio)
Ln(# same-bank employees)	0.3825***	-2.3361*	0.0517***	-0.0029***					0.1464***	0.8335	0.0181	-0.0010
	(0.0493)	(1.3706)	(0.0159)	(0.0005)					(0.0331)	(1.3875)	(0.0142)	(0.0008)
Pese					0.5687***	-5.2580***	0.0700***	-0.0052***	0.4208***	-1.4344	0.0271	-0.0059***
					(0.0467)	(1.6083)	(0.0104)	(0.0012)	(0.0217)	(3.2620)	(0.0285)	(0.0020)
Ln(# same-bank employees) * Pese									0.0399*	-1.7687	0.0155	0.0005
									(0.0223)	(1.0694)	(0.0160)	(0.0006)
Ln(# same-bank employees) * Post	0.1521***	-6.5951**	0.2055***	0.0006					-0.1332***	2.2993**	-0.0537***	0.0014***
	(0.0262)	(2.3941)	(0.0259)	(0.0005)					(0.0231)	(1.0997)	(0.0080)	(0.0004)
Pese Borrower * Post					0.2566***	-12.2261***	0.4002***	0.0004	-0.1578***	-6.6141**	0.2395***	0.0008
					(0.0207)	(2.4973)	(0.0234)	(0.0009)	(0.0322)	(2.7224)	(0.0512)	(0.0016)
Ln(# same-bank employees) * Pese * Post									0.1837***	-2.6597***	0.0736***	-0.0004
									(0.0212)	(0.7615)	(0.0142)	(0.0005)
Observations	829,253	762,010	829,253	829,253	829,253	762,010	829,253	829,253	829,253	762,010	829,253	829,253
R-squared	0.4726	0.4990	0.4893	0.5020	0.4983	0.5065	0.5081	0.5026	0.5012	0.5069	0.5088	0.5026
Bank-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Clusters	30	30	30	30	30	30	30	30	30	30	30	30

Notes: *Loan*, *Int. Rate (%)*, *Duration* and *Default* are defined as in Table 1; # *same-bank employees* is the number of employees that borrow from the same bank as the firm; *Pese* is a dummy variable equal to one if the firm *i* used bank *b* as it's conduit for the *Pese* loans (a paycheck protection program during Covid-19); *Post* is a dummy variable equal to one after march 2020. All independent variables are measured with a one-year lag. We denote significance at 10%, 5% and 1% with *, **, and ***, respectively. Robust standard errors clustered at the bank level are reported in parenthesis.

Table A.7 - New Loans and All Other Covid-19 Facility Bank

VARIABLES	(1) Ln(Loans)	(2) Int. Rate (%)	(3) Ln(duration)	(4) Ln(Loans)	(5) Int. Rate (%)	(6) Ln(duration)	(7) Ln(Loans)	(8) Int. Rate (%)	(9) Ln(duration)
Ln(# same-bank employees)	0.0344	-1.4794	0.0063				0.0424	0.9746	-0.0025
	(0.0311)	(4.4771)	(0.0263)				(0.0416)	(5.2731)	(0.0296)
Covid Facility Borrower				0.1668	-18.6270**	0.0525	0.2599	-12.3783	0.0259
				(0.1261)	(8.8671)	(0.0633)	(0.1550)	(14.4332)	(0.1186)
Ln(# same-bank employees) * Covid Facility Borrower							-0.0334	-2.1849	0.0092
							(0.0408)	(2.7801)	(0.0341)
Ln(# same-bank employees) * Post	0.0591***	1.3221	0.0213				0.0523	-1.2652	0.0171
	(0.0172)	(3.1847)	(0.0450)				(0.0411)	(3.7109)	(0.0572)
Covid Facility Borrower * Post				0.2062	3.3729	0.2186***	0.2251	-8.0876	0.2550
				(0.1468)	(8.5184)	(0.0561)	(0.1575)	(15.7268)	(0.1598)
Ln(# same-bank employees) * Covid Facility Borrower * Post							-0.0053	3.8809	-0.0128
							(0.0551)	(3.0860)	(0.0428)
Observations	19,059	18,872	19,059	19,059	18,872	19,059	19,059	18,872	19,059
R-squared	0.5661	0.5043	0.5842	0.5716	0.5085	0.5884	0.5721	0.5086	0.5885
Bank-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Clusters	22	21	22	22	21	22	22	21	22

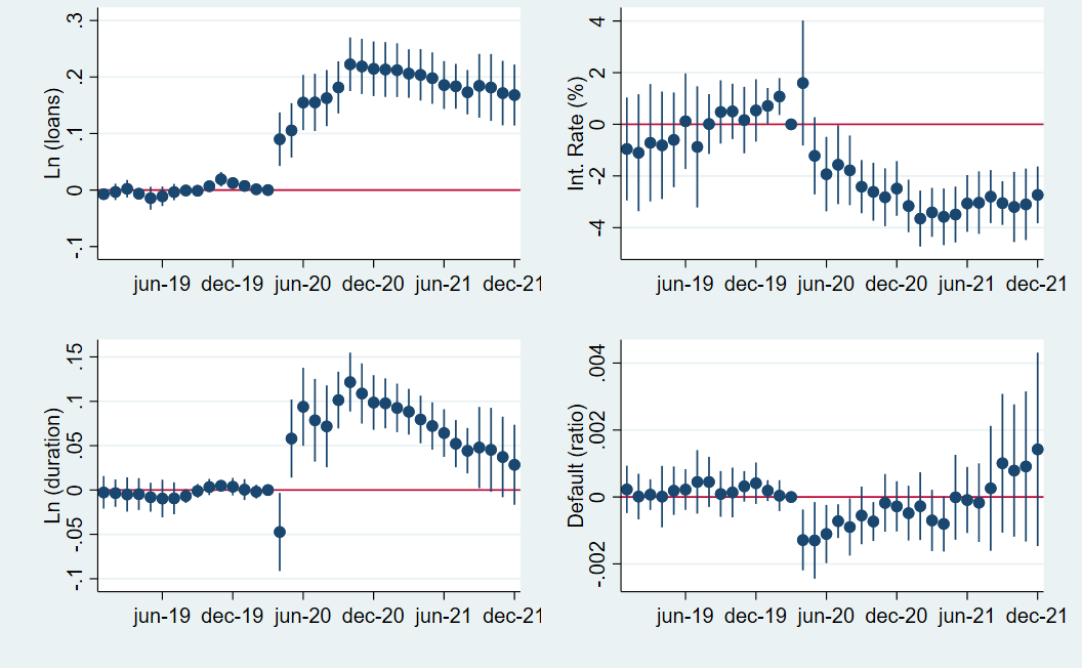
Notes: *Loan*, *Int. Rate (%)*, *Duration* and *Default* are defined as in Table A.2; # *same-bank employees* is the number of employees that borrow from the same bank as the firm; *Covid Facility* is a dummy variable equal to one if the firm *i* used bank *b* as it's conduit for the covid-19 related facilities (except from *Pese*); *Post* is a dummy variable equal to one after march 2020. All independent variables are measured with a one-year lag. We denote significance at 10%, 5% and 1% with *, **, and ***, respectively. Robust standard errors clustered at the bank level are reported in parenthesis.

Table A.8 - All other Covid Facilities Bank (non Pese) and Firm Borrowing (with no filter on the number of Covid facility banks)

VARIABLES	(1) Ln(Loans)	(2) Int. Rate (%)	(3) Ln(duration)	(4) Default (Ratio)	(5) Ln(Loans)	(6) Int. Rate (%)	(7) Ln(duration)	(8) Default (Ratio)	(9) Ln(Loans)	(10) Int. Rate (%)	(11) Ln(duration)	(12) Default (Ratio)
Ln(# same-bank employees)	0.3110***	-0.8149**	0.0349**	-0.0008***					0.2522***	-0.1703	0.0152	-0.0005**
	(0.0412)	(0.3606)	(0.0161)	(0.0002)					(0.0415)	(0.3211)	(0.0153)	(0.0002)
Covid Facility (dummy)					0.5281***	-7.3697***	0.0855***	-0.0025***	0.3726***	-6.9736***	-0.0074	-0.0022***
					(0.0448)	(1.0218)	(0.0190)	(0.0005)	(0.0382)	(1.4309)	(0.0217)	(0.0007)
Ln(# same-bank employees) * Covid Facility									0.0514**	-0.1504	0.0364***	-0.0001
									(0.0197)	(0.7089)	(0.0099)	(0.0003)
Ln(# same-bank employees) * Post	-0.0084	-1.1030*	0.0463***	0.0003					-0.0852***	-1.0021*	-0.0048	0.0002
	(0.0195)	(0.6211)	(0.0121)	(0.0004)					(0.0304)	(0.5640)	(0.0157)	(0.0004)
Covid Facility Borrower * Post					0.8046***	-7.1086***	0.6171***	-0.0025*	0.5892***	-8.8999***	0.5295***	-0.0042*
					(0.0819)	(1.4425)	(0.0459)	(0.0014)	(0.1132)	(1.5991)	(0.0584)	(0.0025)
Ln(# same-bank employees) * Covid Facility * Post									0.0881**	0.7417*	0.0341**	0.0006
									(0.0362)	(0.3956)	(0.0158)	(0.0005)
Constant	12.1379***	36.1733***	5.2574***	0.0071***	12.4894***	37.0433***	5.2323***	0.0074***	12.0168***	39.0723***	5.2049***	0.0083***
	(0.1167)	(1.2249)	(0.0508)	(0.0005)	(0.0261)	(0.4666)	(0.0124)	(0.0005)	(0.1276)	(1.2205)	(0.0424)	(0.0007)
Observations	1,972,565	1,785,216	1,972,565	1,972,565	1,972,565	1,785,216	1,972,565	1,972,565	1,972,565	1,785,216	1,972,565	1,972,565
R-squared	0.5529	0.4837	0.4631	0.4857	0.5975	0.4907	0.5068	0.4865	0.6014	0.4908	0.5078	0.4865
Bank-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Firm-Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Clusters	49	49	49	49	49	49	49	49	49	49	49	49

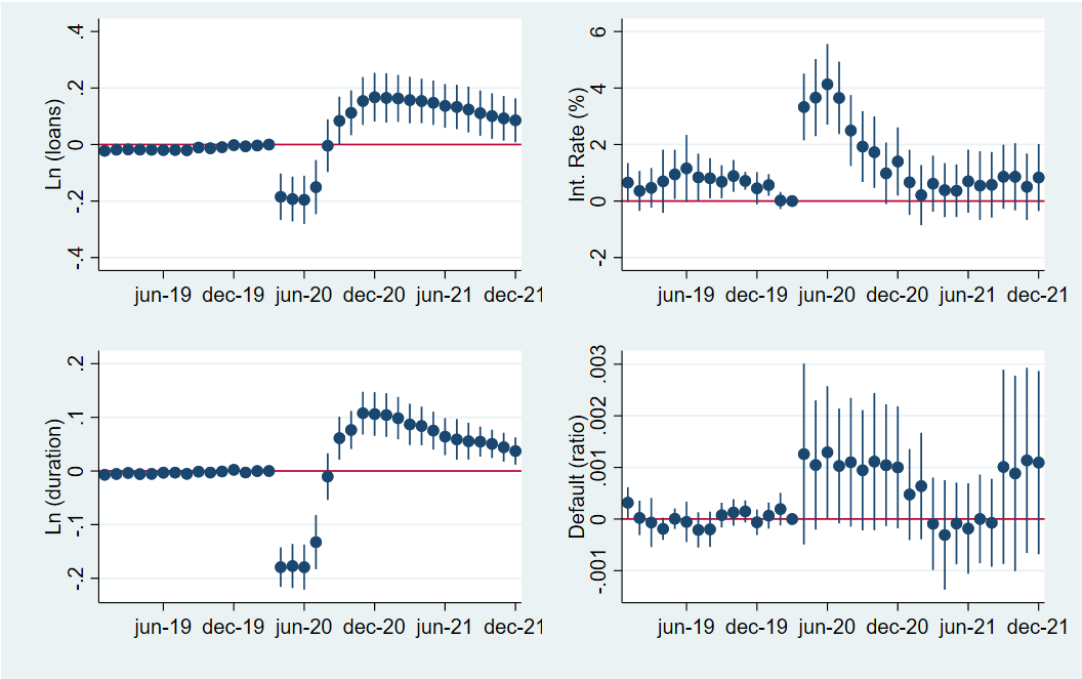
Notes: *Loan*, *Int. Rate (%)*, *Duration* and *Default* are defined as in Table 1; # *same-bank employees* is the number of employees that borrow from the same bank as the firm; *Covid Facility* is a dummy variable equal to one if the firm *i* used bank *b* as it's conduit for the covid-19 related loans (except from *Pese*); *Post* is a dummy variable equal to one after march 2020. All independent variables are measured with a one-year lag. We denote significance at 10%, 5% and 1% with *, **, and ***, respectively. Robust standard errors clustered at the bank level are reported in parenthesis.

Figure A.1 – *Pese* Facility Bank * Employee same-bank borrowing (with no filter in the number of *Pese* banks)



Notes: *Loan*, *Int. Rate (%)*, *Duration* and *Default* are defined as in Table 1. The specification is equivalent to model (2) but separating the β_6 (interaction between *Pese* and employee same-bank borrowing) into monthly betas, here shown. The bars are at 95% confidence interval. Data are from January-2019 to December-2021, monthly based.

Figure A.2 – All Other Covid-19 facilities Bank * Employee same-bank borrowing (with no filter in the number of Covid-19 facility banks)



Notes: *Loan*, *Int. Rate (%)*, *Duration* and *Default* are defined as in Table 1. The specification is equivalent to model (2) but separating the β_6 (interaction between all other government Covid-19 loan facilities and employee same-bank borrowing) into monthly betas, here shown. The bars are at 95% confidence interval. Data are from January-2019 to December-2021, monthly based.