Is a Friend in Need a Friend Indeed? How Relationship Borrowers Fare During the COVID-19 Crisis

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Abstract

We analyze loan contract terms, investigating whether relationship borrowers fare better or worse than others in times of need, using the COVID-19 crisis as a quasi-natural experiment. COVID-19 is superior to prior crises for such analysis because its public health and government restrictions shocks directly harm borrowers, rather than banks. Our dataset includes Y-14Q, covering syndicated and non-syndicated loans and small and large firms, unlike some other datasets. We find the dark side of relationships dominates across four relationship measures, 14 COVID-19 shocks, and PPP participation. There are limited pockets of bright-side findings associated with smaller firms and smaller banks.

Keywords: banks, bank loans, relationship lending, loan contract terms, financial crises, COVID-19, Paycheck Protection Program (PPP)

JEL Classification: G01, G21, G28

"A friend in need is a friend indeed." – Proverb

"A banker is a fellow who lends you his umbrella when the sun is shining, but wants it back the minute it begins to rain." – Mark Twain

Over the last three decades, substantial research attention has been paid to relationship lending. Much of the theory (e.g., Sharpe, 1990; Rajan, 1992; Boot and Thakor, 1994, 2000; Petersen and Rajan, 1995) and empirical work (reviewed in Section 1) focus on whether relationship borrowers fare better or worse in their loan contract terms – interest rate spread, collateral, maturity, and loan amount – than other borrowers. Put another way, the extant research investigates whether borrowers enjoy the bright side versus suffer the dark side of their banking relationships.

Theories disagree on this issue. Relationship borrowers may obtain relatively favorable terms because banks share the benefits of private information garnered over the course of the relationships to help retain these borrowers (e.g., Boot and Thakor, 1994). Alternatively, relationship borrowers may endure harsher terms as banks exercise market power over this private information and "hold up" their relationship customers (e.g., Sharpe, 1990; Rajan, 1992). Despite the conflicting theories, most of the empirical literature supports the bright side, finding relatively favorable loan terms for relationship borrowers (see Section 1 review).

The extant research focuses primarily on normal times. However, it is also important to study the benefits and costs to relationship borrowers during crises, when borrowers are particularly in need. At these times, the soft information behind relationship lending may be more valuable relative to the hard information underlying other lending technologies that may not work as well when markets are less functional and prices are less informative (e.g., Liberti and Petersen, 2019). For example, the value of a mostly empty movie theater or local restaurant building pledged as collateral may be difficult to evaluate during the COVID-19 crisis, whereas soft information on the character of the business owner may largely retain its value. Consistent with these arguments,

Grunert, Norden, and Weber (2005) find that soft information better retains its value and informativeness than hard information over the economic cycle.

We ask whether relationship borrowers fare better or worse in their loan contract terms than other borrowers during the COVID-19 crisis that puts both relationship and non-relationship borrowers in need. Using the proverb on the first page, we explore whether banks are friends indeed to their relationship borrower friends in need. Alternatively, banks may effectively pull the umbrella away from their relationship customers the minute it starts to rain, as suggested by the Mark Twain quote on the first page.

Theoretical research on the effects of relationships during crises is sparse and emphasizes the bright side. Bolton, Freixas, Gambacorta, and Mistrulli (2016) show that banks may insulate relationship borrowers from crises through intertemporal smoothing – granting relationship borrowers relatively easy loan contract terms during crises, compensating with tougher terms during normal times.[1] Empirical research on relationship lending during prior crises such as the Global Financial Crisis (GFC) mostly supports the bright-side argument, consistent with the normal-times research (see Section 1).

In sharp contrast, our findings are strongly consistent with the dark side of relationship lending during the COVID-19 crisis – relationship borrowers tend to suffer harsher loan contract terms than other borrowers in this time of need. Hold-up problems associated with banks' market power over private information appear to empirically dominate, rather than banks sharing the benefits of this information with their relationship borrowers in need. There are some limited pockets of support for the bright side of relationships for smaller firms and smaller banks.

We argue that our results deviate from the extant crisis literature due to the very different

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[1] Banks may also smooth loan rates over the business cycle and in response to changing market interest rates (e.g., Fried and Howitt, 1980; Berlin and Mester, 1999).

nature of the COVID-19 crisis. COVID-19 imposes some of the largest negative shocks in history directly on businesses that impairs their creditworthiness, which then affects the banks.[2] Thus, COVID-19 allows us to address whether relationship borrowers fare better or worse than others when borrowers are in need. Earlier crises such as the GFC generally harmed the banks directly, which in turn reduced credit supply that negatively impacted their borrowers. Thus, research using prior crises could only directly address how relationship borrowers fare when **_banks_** are in need, rather than when **_borrowers_** are in need. COVID-19 shocks are also plausibly exogenous to both the banking industry and the borrowers. COVID-19 was not caused by the banks or their borrowers, nor did either group have much time to prepare for the shock. In contrast, prior financial crises were caused in part by banking excesses and were predictable to some degree (e.g., Rajan, 1994; Berger and Udell, 2004; Thakor 2005, 2015; Acharya and Naqvi, 2012; Berger and Bouwman, 2017).

We use the COVID-19 crisis as a quasi-natural experiment and employ public health problems and government activity restrictions during this crisis as exogenous shocks to firms. We construct 14 COVID-19 shocks. The public health shocks include national and state (new and total) COVID-19 cases and deaths. The government activity restrictions indices include totals of stay-at-home orders, business shutdown orders or limitations, quarantines, and similar restrictions at the national or state levels. The COVID-19 shocks vary in intensity both over time and across individual U.S. states. This rich variation allows us to ensure the robustness of our findings to the effects of public health versus government activity restriction shocks, more versus less intense shocks, and variations in effects over time. Studies of earlier crises often just compare effects during a crisis versus normal times. Importantly, we avoid specifying crisis measures that reflect

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[2] Real U.S. Gross Domestic Product (GDP) declined at an annualized record rate of 32.9% in 2020:Q2. https://www.bea.gov/news/2020/gross-domestic-product-2nd-quarter-2020-advance-estimate-and-annual-update.

economic activity – such as business closings, revenue declines, and numbers of employees working – as such measures may be endogenous to the credit decisions we analyze.

We assemble supervisory data from Schedule H.1 of the Federal Reserve's Y-14Q, which covers U.S. bank holding companies and intermediate holding companies of foreign banking organizations operating in the U.S., hereafter called "banks" for brevity, with over $100 billion in assets. As of 2019:Q4, these banks covered more than 60% of the balances of all commercial and industrial (C&I) loans reported in the Federal Reserve's Y-9C. These banks report quarterly on their commercial loans of at least $1 million. We keep new loans to nonfinancial firms originated by these banks. We add Y-9C data on banks' participation in the Paycheck Protection Program (PPP), which may affect relationship lending. We focus on four loan contract terms – interest rate spread, collateral, maturity, and loan amount – to address our question. We perform all analyses separately for term loans (loans of fixed amounts and maturities) and revolvers (commitments allowing borrowers to draw and repay funds up to a limit until maturity) because they are fundamentally different products with contract terms that may not be comparable. Our sample has over 50,000 loans issued from April 2018 – June 2020, covering the COVID-19 crisis and immediately preceding times.

In contrast to most prior U.S. studies, our dataset includes information on both large and small firms. It is important to include small firms that are generally more dependent on relationship lending using soft information. This is because they have relatively little quality hard information such as certified audited financial statements, market prices for traded securities, and public credit ratings, needed for other lending technologies (e.g., Liberti and Petersen, 2019). Our results indeed confirm that results differ for smaller firms. Also in contrast to most of the literature, our dataset includes both loans that are and are not syndicated (the vast majority are not). Syndicated and non-

syndicated loans have contract terms differ significantly from one another (Berger, Bouwman, and Wang, 2020), so including both loan types ensures that our findings are robust.

Notably, our dataset does not have information on loans that were rejected or discouraged, and we do not have data on potential borrowers that did not receive credit. Thus, we study the intensive margin of contract terms on issued loans, but our data do not allow for study of the extensive margin of the likelihood of obtaining credit. However, our data on a variety of loan types, contract terms, relationship measures, and COVID-19 shocks ensure that our loan contract term findings are robust across these dimensions.

We employ a quasi-difference-in-difference (quasi-DID) framework, regressing loan contract terms on the existence, intensity, or length of the bank-borrower relationship; a COVID-19 public health condition or government activity restrictions shock; and their interactions (the quasi-DID terms). This differs from a standard DID framework in that some of our relationship and COVID-19 variables are not dummies, but intensity measures that vary over time and in the cross section. We use numerous loan, firm, bank, and firm-county controls, and include bank and industry fixed effects to account for other credit demand and supply factors.

We focus on the interaction term between the relationship variable and the COVID-19 shock, the term that addresses our main question. We do not emphasize the uninteracted terms because these do not directly address our question, and they are also difficult to cleanly interpret. The coefficient on the uninteracted relationship variable is ambiguous because banking relationships are not exogenous to the loan contract terms (e.g., Bharath, Dahiya, Saunders, and Srinivasan, 2011; Prilmeier, 2017; Beck, Degryse, De Haas, and van Horen, 2018). For example, borrowers may choose relationship banks on the basis of the contract terms they expect on future loans. It is also difficult to cleanly interpret the coefficient on the uninteracted COVID-19 shock

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because both credit demand and supply may be affected. The health concerns and government restrictions that cause fewer customer visits to firms may affect the firms' demand for credit, changing loan contract terms irrespective of banks' credit supply reactions. Banks may also adjust credit supply due to their own projected loan, liquidity, and profitability losses from the crisis, affecting loan contract terms as well.

Nonetheless, we can reasonably interpret the interaction between the relationship and COVID-19 shock variables as the effect of the crisis shock on how relationship borrowers fare relative to other borrowers in their time of need. The relationship variable is based on past loans made by the same bank to the same borrower and is essentially unaffected by the COVID-19 public health or government restrictions shocks. Given that the pandemic was not predicted, these past loans could not have been made in anticipation of the shocks, yielding a relatively clean interpretation of the coefficient on the interaction term.

We acknowledge a potential selection issue that our results may be driven by relationships that were formed after some knowledge of the impending crisis became available. To mitigate this concern, we perform a robustness check in which we drop all loans for which the relationship started in 2020 and find very similar results (untabulated, but available on request).

Our approach to relationship lending is considerably broader than the typical application in the literature. Much of the extant relationship lending research focuses on intertemporal smoothing on a single loan contract term, such as the interest rate spread. Banks may charge a lower spread at certain times and make up for it at other times with higher spreads. Consistent with the literature, we test whether banks smooth intertemporally between normal times and the COVID-19 crisis. However, unlike other studies, we also investigate whether banks engage in multiple dimensions of cross-sectional smoothing across two different loan types (term loans and

revolvers); four different loan contract terms (interest rate spread, collateral, maturity, and loan amount); two different borrower types (relationship and non-relationship); and two different firm types (smaller and larger). Our results support intertemporal smoothing but in the opposite direction to most of the normal times and crisis literature, with harsher loan contract for relationship borrowers in their time of need. We find no cross-sectional smoothing between loan types and among loan contract terms, but there is some cross-sectional smoothing from relationship borrowers to non-relationship borrowers and to a lesser extent from larger firms to smaller firms.

The remainder of the paper is organized as follows. Section 1 reviews empirical research on relationship lending during normal times and past crises and on bank lending during the COVID-19 crisis. Section 2 describes the data. Section 3 presents our methodology and regression variables. Section 4 shows our main empirical results. Section 5 has a dynamic analysis, falsification tests, and robustness tests using alternative relationship measures and additional COVID-19 shocks. Section 6 examines how the findings differ by firm and bank sizes and other firm, loan, and bank characteristics. Section 7 shows our PPP analysis. Section 8 concludes.

1. Review of Empirical Research on Relationship Lending

1.1. Research on Relationship Lending during Normal Times

Many papers find that businesses benefit from their banking relationships on loan contract terms such as the interest rate spread during normal times (e.g., Petersen and Rajan, 1994; Berger and Udell, 1995; Cole, 1998; Elsas and Krahnen, 1998; Harhoff and Körting, 1998; Degryse and Ongena, 2005). Some papers, however, find that relationships lead to less favorable terms (e.g., Angelini, Di Salvo, and Ferri, 1998; Degryse and Van Cayseele, 2000). For reviews of this literature, see Boot (2000), Degryse and Ongena (2008), and the meta-analysis by Kysucky and

Norden (2016).

Much of the literature suggests that small businesses are relatively informationally opaque and more dependent on relationship lending than large businesses (e.g., Gopalan, Udell, and Yerramilli, 2011) and that small banks and those that are better capitalized have comparative advantages over large banks and less well capitalized banks in relationship lending, respectively (e.g., Cole, Goldberg, and White, 2004; Berger, Miller, Petersen, Rajan, and Stein, 2005; Berger, Bouwman, and Kim, 2017; Schwert, 2018). However, some use DealScan, which includes mostly syndicated loans by large banks to large firms and generally find benefits to relationship borrowers (e.g., Dennis and Mullineaux, 2000; Drucker and Puri, 2005; Bharath, Dahiya, Saunders, and Srinivasan, 2007, 2011; Sufi, 2007).

1.2. Research on Relationship Lending during Financial Crises

Most studies on relationship lending during crises focus on the GFC and often find evidence supporting the bright side of relationships. Some studies provide "indirect" evidence on relationship lending because they cannot directly connect the borrower to its bank. Exploiting bank-level survey data from Central and Eastern Europe to classify relationship and transactions banks, Beck, Degryse, De Haas, and van Horen (2018) find positive effects of relationships in the early parts of the GFC. Using U.S. firm-level survey data, Berger, Bouwman, and Kim (2017) document that a greater local market presence of small banks strongly mitigates small business financial constraints during the GFC. Viewing small banks with high shares of commercial lending to be relationship lenders, DeYoung, Gron, Torna, and Winton (2015) also find that small relationship lenders cushioned credit crunch problems for small businesses during the GFC.

Others provide "direct" evidence using European credit registry data on relationships between banks and small business borrowers during the GFC. Using various relationship lending

proxies, these papers generally find that relationships helped to secure more funding at lower rates, buffering relationship borrowers against credit crunches (e.g., Jimenez, Ongena, Peydro, and Saurina, 2012; Sette and Gobbi, 2015; Bolton, Freixas, Gambacorta, and Mistrulli, 2016).

Using DealScan data on syndicated lending to large firms in the U.S., Karolyi (2018) finds similar results. In contrast, also using syndicated loan data from DealScan, Chodorow-Reich (2014) finds that stronger relationships with banks in poor financial health reduce the likelihood of obtaining a loan and increase loan rates after the Lehman Brothers failure. This provides some support for the dark side of relationship lending, although this study excludes non-relationship borrowers.

Our approach to relationship lending is considerably broader than both the normal times and crisis studies, which typically focus on intertemporal smoothing on a single loan contract term, such as the interest rate spread. We specify a number of loan contract terms and assess how banks may engage in both intertemporal smoothing on these terms as well as cross-sectional smoothing across loan types, loan contract terms, and borrowers.

1.3. Empirical Research on Bank Lending during the COVID-19 Crisis

The literature on bank lending during the COVID-19 crisis is growing rapidly. Near the start of the crisis in March 2020, there was a massive drawdown of existing credit lines, dubbed "dash for cash" (e.g., Acharya and Steffen, 2020; Chodorow-Reich, Darmouni, Luck, and Plosser, 2020; Li, Strahan, and Zhang, 2020). Most of the drawdown was by large firms from large banks.

Some studies find that borrowers generally did not fare as well during the crisis. Greenwald, Krainer, and Paul (2020) find that banks with larger drawdowns from large firms restrict term lending more. Kapan and Minoiu (2020) find that banks with larger exposure to revolver drawdown risk tighten standards and limit the supply of new large syndicated loans, and

that banks with greater exposures to industries most affected by the COVID-19 crisis display lower loan growth. International studies also find reduced loan growth (Colak and Oztekin, 2020) and higher interest rate spreads (Hasan, Politsidis, and Sharma, 2020).

A number of studies investigate how the Coronavirus Aid, Relief, and Economic Security (CARES) Act, which includes the Paycheck Protection Program (PPP), affects bank lending. Banks were encouraged to prioritize existing customers when issuing such loans,[3] and PPP credit is indeed higher for relationship borrowers (e.g., Amiram and Rabetti, 2020; Bartik, Cullen, Glaeser, Luca, Stanton and Sunderam; 2020; Li and Strahan, 2020). Other studies find that small banks play important roles in the provision of PPP loans (e.g., James and Lu, 2020; Levine, Lin, and Xie, 2020), banks participating in PPP increase their other small business lending (Karakaplan, 2020), PPP recipients reduce their non-PPP borrowings (Chodorow-Reich, Darmouni, Luck, and Plosser, 2020), and some PPP funds were not employed as intended (Granja, Makridis, Yannelis and Zwick, 2020).

These PPP findings are not directly comparable to ours. Banks issue PPP loans as distribution agents for subsidized government lending that is not intended to be repaid. This is quite different from the financial intermediation that we study, although we test whether PPP affects traditional lending to relationship and non-relationship borrowers.

2. Data and Sample Period

Our data are mainly from the Y-14Q, covering commercial loans of $1 million or more extended by U.S. banking organizations with over $100 billion in assets. Banks with over $50 billion in assets were required to report from 2011:Q3 onward, but the 2018 Economic Growth, Regulatory

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[3] A report from the House Select Subcommittee on the Coronavirus Crisis found that the "Treasury Department privately encouraged banks to prioritize existing customers when issuing [PPP] loans." (*Wall Street Journal*, Omeokwe and Tracy, October 16, 2020, available at: https://www.wsj.com/articles/treasury-department-encouraged-banks-to-prioritize-existing-customers-for-ppp-loans-democratic-report-says-11602861336).

Relief, and Consumer Protection Act increased the reporting size threshold to $100 billion starting in 2019:Q4. For consistency, we focus on banks with assets over $100 billion.

Y-14Q Schedule H.1 contains quarterly information on the loan contract terms used in the paper: interest rate spread, collateral, maturity, and loan amount. Y-14Q also has detailed information on other loan characteristics, such as loan type (term loan versus revolver), and the bank's internal private risk rating on the loan, reflecting the bank's assessment of credit quality. The Federal Reserve uses concordance tables provided by the banks to map the raw private ratings of banks to a standardized rating scale (AAA, AA, A, BBB, BB, B, etc.), making these ratings reasonably comparable across banks.[4] The Y-14Q also has firm characteristics (e.g., size, listing status, public debt rating, industry) and loan purpose (e.g., acquisitions, capital expenditures). We add bank characteristics from the Y-9C and local market economic indicators for the county of the borrower from BLS/Haver Analytics, U.S. Census Bureau, and Corelogic Solutions.

We obtain COVID-19 shock data from the Economic Tracker of Chetty, Friedman, Hendren, and Stepner (2020); the Johns Hopkins Coronavirus Resource Center; and the University of Washington COVID-19 Policies Database from Adolph, Amano, Bang-Jensen, Fullman, and Wilkerson (2020). We alternatively view the COVID-19 shock to be a public health or government activity restrictions shock.[5] The public health shocks started on January 21, 2020, when the first COVID-19 case was identified in the U.S. The government activity restrictions shocks started on February 29, 2020, the first date on which a government official in the U.S. (Governor of Washington) declared a state of emergency.

Our sample period begins on April 1, 2018, and ends on June 30, 2020. The starting date

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[4] Importantly, while these ratings use the S&P rating scale, they are the bank's private ratings, not those of S&P.
[5] Goel and Thakor (2021) show that the prospects of borrowers depend not only on the severity of the health shock but also on the policy responses of the government.

ensures that we use a relatively short pre-crisis period, which is important for comparability with our relatively short COVID-19 shock period. Our public health-shock regressions use April 1, 2018 – January 20, 2020, as the pre-shock period and January 21, 2020 – June 30, 2020, as the shock period. Our government activity restrictions shock regressions use April 1, 2018 – February 28, 2020, as the pre-shock period and February 29, 2020 – June 30, 2020, as the shock period.

We focus on newly issued loans and apply the following filters to provide clear answers to our questions. We eliminate loans to other financial institutions and governments. We also drop loans with a committed exposure below $1 million, the official minimum size requirement to be included in the Y-14Q. Schedule H.1 explicitly excludes "small business loans" – loans that are evaluated based on borrower credit scores or rated on a different scale than other corporate loans. For consistency, we drop all loans reported with a small business "line of business." Observations are deleted as well if the total size of the loan package is larger than the size of the firm, or if the maturity of the loan is negative.[6] We focus on pure term loans and pure revolvers for comparability of loan contract terms, leaving out mixed cases.[7]

Our final term loan and revolver regression samples contain 27,153 and 26,184 loan-firm-bank observations, respectively, for between 27 and 30 unique banks per quarter with complete information on loan, firm, bank, and county characteristics. Regressions lose some additional

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[6] We use the median value for firm's financial variables, obtained over all loan facilities that report the firm's financials across all BHCs in that quarter. Since the firm financial data should be the same across facilities and across banks, taking the median observed value helps eliminate reporting errors from filing an extreme value and from not filing any values for firm financial characteristics. We are able to do this despite the fact that the Y-14Q does not include firm identifiers that are common across banks. We construct common identifiers ourselves based on the combination of tax identifiers, firm name, ticker, cusip, and banks' internal obligor names. We also winsorize the financial variables at the 1 and 99 percentile levels.

[7] To ensure a homogeneous sample, we discard the following term loan types: asset-based term loans (term loans secured by accounts receivable and inventory in a non-standard asset-based loan contract), and debtor-in-possession term loans (loans obtained while in Chapter 11 bankruptcy). We also exclude several specialized revolver types: revolvers converting to term loans, debtor-in-possession revolvers, non-revolving lines of credit, and non-revolving lines of credit that convert to term loans. Finally, we exclude other facility types (capitalized lease obligation, standby letters of credit, other real estate owned, other asset fronting exposure, commitment to commit, and others).

observations due to dropping singletons (groups with only one observation) and/or data availability issues for the interest rate spread variable.[8]

3. Methodology and Regression Variables

We explain our empirical methodology in Section 3.1 and discuss the regression variables in Section 3.2 and in Table 1.

3.1. Methodology

We specify the following quasi-DID setup:

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\begin{aligned}
Y_{i,b,j,t} = \beta_0 &+ \beta_1 Relationship_{i,b,j,t-3y\ to\ t} + \beta_2 COVID\text{-}19\ Shock_{j,t} \\
&+ \beta_3 Relationship_{i,b,j,t-3y\ to\ t} \times COVID\text{-}19\ Shock_{j,t} \\
&+ \beta_4 Loan\ Controls_{i,t} + \beta_5 Firm\ Controls_{i,b,j,t} \\
&+ \beta_6 Bank\ Controls_{b,t=mr} + \beta_7 County\ Controls_{j,t=mr} \\
&+ \beta_8 Bank\ FE_b + \beta_9 Industry\ FE_i + \varepsilon_{i,b,j,t}.
\end{aligned}
\tag{1}
$$

$Y_{i,b,j,t}$ is the outcome, one of four alternative loan contract terms – interest rate spread, collateral, loan maturity, or loan amount to customer *i* by bank *b*, in borrower local market *j* at time *t*. The subscript *mr* on some of the variables indicates the most recent date. $Relationship_{i,b,j,t-3y\ to\ t}$ is alternatively defined as relationship existence (main definition), relationship intensity, or relationship length calculated based on prior Y-14Q loans.[9] Some tests use relationship existence variables based on past term loans and revolvers separately. *COVID-19 Shock* is the exogenous public health or government restrictions shock. *Relationship × COVID-19 Shock* is the quasi DID term and key variable of interest, which shows how the marginal effect of the COVID-19 shocks

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[8] Maintaining singleton groups in linear regressions where fixed effects are nested within clusters can overstate statistical significance and lead to incorrect inference. To avoid this problem, we use the reghdfe package that automatically drops singletons (e.g., Correia, 2015, 2017).

[9] We are unable to include information on non-credit products, which are also part of relationships (e.g., Petersen and Rajan, 1994; Mester, Nakamura, and Renault, 2007; Norden and Weber, 2010).

on loan contract terms varies with the existence, intensity, or length of the relationship. The coefficient signs on *Relationship × COVID-19 Shock* indicate whether relationship borrowers fare better or worse than other borrowers in response to the shocks.

We saturate the model with control variables and fixed effects to account for other credit demand and supply factors. Controls include *Loan*, *Firm*, and *Bank Controls*, all measured at the end of the quarter in which the loan is issued, and *County Controls* measured at the most recent month end (except for most recent year end for population density). We include bank fixed effects and industry fixed effects (2-digit NAICS) to capture unobserved time-invariant heterogeneity across banks and industries, respectively. We cluster standard errors at the *bank × industry* level to account for any within bank × industry correlations (banks and firms could respond to shocks in a similar fashion) and for the level of variation in loan terms across bank-industries.

3.2. Regression Variables

3.2.1. Dependent Variables

Interest Rate Spread is the interest rate spread over the constant rate of U.S. Treasury securities with a similar maturity. *Collateral* is a dummy equal to one if the loan is secured. *Ln(Maturity)* is the natural log of one plus the maturity of the loan in years, where maturity is the total years from origination to maturity date. *Ln(Loan Amount)* is the natural log of one plus the total loan amount that a borrower can contractually borrow. Loan covenant data are not available in Y-14Q.

3.2.2. Relationship Variables

We use four definitions of *Relationship*. *Rel Exist* captures the existence of a relationship, a dummy that equals 1 if the firm has borrowed from the bank over the past three years. *Rel Intens* measures relationship intensity, the loan amounts received from the bank normalized by the total loan amounts received from any sample bank over the past three years. *Rel Length* indicates relationship

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length, the natural log of one plus the number of years from the date the bank first lent to the firm.[10]

Finally, *TL Rel Exist* and *RV Rel Exist* are indicators for the existence of a prior term loan and revolver, respectively, from the current bank in the past three years.

3.2.3. COVID-19 Shock Variables

We construct four main COVID-19 shock measures (plotted over time in Figure 1), and 10 more in the robustness checks. Two main measures focus on the severity of the public health crisis. *US New Cases/100K Pop* and *State New Cases/100K Pop* are the number of new COVID-19 cases per 100,000 population in the U.S. and in the state of the borrower, respectively. Cases are 0 before the start of the public health crisis (January 21, 2020). Two other main measures focus on the intensity of the government activity restrictions: *US Restrict Index*, a national restrictions index, and *State Restrict Index*, a state restrictions index. The latter is created by us using raw data on states' start and end (or expiry) dates on 10 possible mandated statewide COVID-19 restrictions with potential impact on economic activity: (1) Emergency declaration, (2) Stay at home, (3) Non-essential business close, (4) Other business close, (5) Restaurant restrictions, (6) Bar restrictions, (7) School close, (8) Gathering restrictions, (9) Travel restrictions, and (10) Quarantine/case isolation orders. For each state, we add 1 for each government activity restriction that is present in a state. Thus, index values range from 0 to 10, with 10 being the most restrictive. The number of restrictions is 0 before the start of the crisis (February 29, 2020). The national index is a state-population weighted average of the individual state restrictions.

3.2.4. Control Variables

We use controls for loan, firm, bank, the firm's county, plus bank and industry (2-digit NAICS) fixed effects. The loan controls include four dummies reflecting the private information of the

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[10] Lopez-Espinosa, Mayordomo, and Moreno (2017) and others document that relationship length matters.

bank: high investment grade HIG (the bank internally rates the loan in the A range or above; the left-out or excluded category in regressions), low investment grade LIG (BBB), high sub-investment grade HSG (BB), and low sub-investment grade LSG (B or below). Also included are a non-syndicated loan dummy; floating rate and mixed rate loan dummies (fixed rate is the left-out category); loan purpose dummies (mergers and acquisitions or capital expenditures (ACQ/CAPEX), general purpose (General), and commercial real estate (CRE), while miscellaneous is the left-out category; and two dummies indicating if the loan package has at least one additional term loan or revolver.

The firm controls are composed of firm size dummies for smaller (total assets $1 million to $25 million; the left-out category); medium ($25 million to $250 million); and large (> $250 million) firms, and an indicator for firms with missing total assets; a dummy for past delinquency indicating whether the firm was at least 90 days past due on any of its loans in the last five years; ROA, net income scaled by total assets, and an indicator for firms with missing ROA; leverage ratio, total debt scaled by total assets, and an indicator for firms with missing leverage; a private firm dummy; and a public bond rating availability dummy.

The bank controls consist of bank size, the natural log of one plus bank total assets; the capital ratio, total equity scaled by total assets; the nonperforming loans (NPL) ratio, loans at least 90 days past due or in non-accrual status scaled by total assets; liquidity ratio, cash plus marketable securities scaled by total assets; and ROA, net income scaled by total assets.

The county controls are the unemployment rate, the house price index (HPI), the one-month change in the HPI, and population density where the firm is headquartered.

3.2.5. Summary Statistics

Table 1 shows the definitions and means of all of our regression variables, overall and sliced by

pre- and during public health and government activity restrictions shock periods. All statistics are shown separately for term loans and revolvers.

Term loans in our sample on average have a spread of 2.091% over U.S. Treasuries with similar maturity; 82.6% of these loans are collateralized; the average loan maturity is 5.665 years; and the average loan amount is $33.653 million. The average revolver has a spread of 2.346%, a 73.6% collateralization rate, average loan maturity of 1.642 years, and average loan amount of $63.742 million. For both term loans and revolvers, loan spreads tend to be higher and loan maturity tends to be lower during the COVID-19 shock periods, while the results for the other terms are mixed.

Our main relationship variable, *Rel Exist*, equals one for 40.7% of term loans and 43.2% of revolvers. These relationship proportions remain relatively constant before and after the COVID-19 shocks.

Turning to our four main shock variables, their full-sample averages are not insightful, given that they are 0 before COVID-19. During the public health shock period, the average *US New Cases/100K Pop* are 4.881 and 5.351 for term loans and revolvers, respectively, and the average *State New Cases/100K Pop* are 4.452 and 5.042, respectively. During the government activity restrictions shock period, for term loans and revolvers, the average *US Restrict Index* are 6.029 and 6.247, respectively, while the average *State Restrict Index* are 5.349 and 5.663, respectively. Figure 1 Panels A – D show our main COVID-19 intensity measures at different points in time of the crisis. It suggests few to no cases and restrictions in January and February, but a sudden large increase in restrictions in a majority of U.S. states starting with March 2020 and generally further intensification in the following months, although there are decreases in restrictions in some states in May and June. Figure 1 Panels E – F show some auxiliary graphs.

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We do not discuss statistics for loan, firm, and bank controls here for brevity.

4. Main Results

Table 2 Panels A and B present our main results for term loans and revolvers, respectively. Each panel shows 16 regressions, one each for four different loan contract terms – *Interest Rate Spread*, *Collateral*, *Ln(Maturity)*, and *Ln(Loan Amount)* – employing four different COVID-19 shocks – *US New Cases/100K Pop*, *State New Cases/100K Pop*, *US Restrict Index*, and *State Restrict Index*. The *Relationship* variable here is *Rel Exist* – we demonstrate robustness using other relationship and shock measures in Section 5. In each regression, the interaction term *Relationship × COVID-19 Shock* is the variable of interest, addressing our main question of "friends in need," or how relationship borrowers fare relative to others in response to the shocks. Our discussions focus almost entirely on these interaction terms. All regressions include a large set of loan, firm, bank, and local market (borrower county) controls, plus bank and industry fixed effects.

In Panel A, the coefficients of the interaction terms are positive and statistically significant in the *Interest Rate Spread* regressions in columns (1)-(4). These suggest spread increases on new term loans for relationship borrowers relative to other borrowers in response to the COVID-19 shocks. To determine economic significance, we multiply the coefficients of these *Rel Exist ×* *COVID-19 Shock* interaction terms by the means of the *COVID-19 Shock* variables over the period when these shocks were in effect from Table 1, Panel C. Thus, for the first shock, *US New Cases/100K Pop*, the interaction coefficient of 0.024 times the mean of the shock over the public health shock period of 4.881 yields 0.117 or about 11.7 basis points. For the four different shocks, the magnitudes range between 5.8 and 13.9 basis points.[11] While the magnitudes are somewhat modest from an economic significance standard, they are nonetheless all statistically significant

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[11] Calculations for Columns (2) – (4): (0.013×4.452=) 5.8 bps; (0.023×6.029=) 13.9 bps; and (0.018×5.349=) 9.6 bps.

and point to harsher terms for relationship borrowers in response to the COVID-19 shocks. As we will see next, this is not the end of the unfavorable news for these borrowers – other contract terms are also statistically significantly worse.

The other statistically significant interaction term coefficients in Panel A are also unfavorable for relationship borrowers – two positive effects on *Collateral* in columns (5)-(8) and four negative effects for *Ln(Maturity)* in columns (9)-(12). To evaluate the magnitudes of the shorter maturities, we multiply the interaction term coefficients by the means of the shock variables over the relevant time periods and exponentiate to convert natural logs to levels. For the four shocks, loan maturity decreases range between 0.13 and 0.34 years (1.54 to 4.12 months) when evaluated at the means of *Ln(Maturity)* for each of the corresponding shocks.[12]

Thus, relationship borrowers fare worse than other borrowers on their term loans during the crisis, suggesting an empirical domination of the dark side of relationships and exacerbation of the hold-up problem. There are no significant benefits for relationship borrowers for any of the loan terms. These findings are in sharp contrast to the shared benefits and intertemporal smoothing of loan interest rates found in most of the extant research on earlier crises. In terms of the main question of the paper, the results suggest that the banks are **<u>not</u>** friends indeed when their term loan relationship borrowers are in need during the crisis. Rather, the banks charge their relationship borrowers more, may require collateral more frequently, and give them shorter maturities during the crisis, and do not share loan amount benefits either.

The revolver results in Panel B also suggest that relationship borrowers fare worse than

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[12] Calculations for *Ln(Maturity)* in Col. (9)-(12) are (-0.013×4.881=) -0.063; (-0.008×4.452=) -0.036; (-0.015×6.029=) -0.090; and (-0.019×5.349=) -0.102. These translate into reduced *Ln(Maturity)* at its means of (1.299-0.063=) 1.236, (1.299-0.036=) 1.263, (1.267-0.090=) 1.177, and (1.267-0.102=) 1.165. Exponentiating both mean *Ln(Maturity)* and the reduced *Ln(Maturity)* and subtracting one to obtain the levels of maturity in the shock periods, yields declines in maturity in years of (3.666-3.440=) 0.23, (3.666-3.537=) 0.13, (3.550-3.243=) 0.31, and (3.550-3.207=) 0.34.

other borrowers during the COVID-19 crisis. Of the 16 interaction coefficients, nine are statistically significant, including four suggesting higher collateral, three indicative of shorter maturity, and two signifying lower loan amounts, all pointing toward relationship borrowers faring worse than other borrowers.[13] The overall conclusions of empirical domination of the dark side of relationships, exacerbation of the hold-up problem, no benefits for relationship borrowers relative to others during the COVID-19 crisis, and lack of friendship indeed for relationship borrowers in need contrast sharply with findings for earlier crises such as the GFC.

In terms of smoothing behavior, our main results support intertemporal smoothing in the opposite direction to most of the literature – harsher loan contract terms for relationship borrowers in times of crisis than in normal times. The main results also support cross-sectional smoothing from relationship borrowers to non-relationship borrowers during the crisis. The findings for term loans and revolvers and for the four loan contract terms are all in agreement about the unfavorable loan contract terms, yielding no evidence of cross-sectional smoothing between loan types and among loan contract terms.

Turning briefly to the other coefficients in Table 2, the uninteracted *Relationship* and *COVID-19 Shock* variables do not give consistent guidance. As noted above, the uninteracted *Relationship* coefficient cannot be cleanly interpreted as a causal effect, while the uninteracted *COVID-19 Shock* coefficient combines credit demand and supply effects.

For the control variables, we simply review here some of the significant findings in the *Interest Rate Spread* regressions to conserve space. Lower-rated loans based on the banks' private information are associated with higher spreads, as are loans to more highly leveraged firms, consistent with higher loan risk resulting in greater risk premiums, as expected. Larger firms and

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[13] In additional unreported analyses, we control for recent credit line drawdowns and find that our main results remain materially unchanged.

those with public debt ratings obtain lower spreads, consistent with their greater transparency. The coefficients of some of the bank characteristics are statistically significant but have opposing signs for term loans and revolvers, making them difficult to interpret.

5. Robustness Checks

This section examines the dynamic effects of the COVID-19 shocks on relationship borrowers, performs falsification tests, and uses alternative relationship measures and COVID-19 shocks.

5.1. Dynamic Effects over the Months of the Crisis

Table 3 presents dynamic effects of the *COVID-19 Shocks* on relationship borrowers' loan contract terms over the months of the crisis for term loans (Panel A) and revolvers (Panel B). Instead of the *COVID-19 Shock* variables employed in Table 2, we now use dummies for each of the main months of the crisis from March to June 2020, the end of our sample period, and interact these four months with *Rel Exist*. The interaction terms indicate how relationship borrowers fare relative to other borrowers at different stages of the crisis.

The proportions of statistically significant interaction coefficients are considerably smaller than in Table 2, likely due to low test power – there are fewer loans in individual months than in the full sample period. Nonetheless, some inferences may be drawn from Table 3. First, the main conclusion drawn from the main results in Table 2 remains largely robust – all but two of the significant interaction terms in Table 3 are unfavorable for relationship borrowers. Second, as the crisis deepens for the first few months, the relationship borrowers fare worse and worse. Third, while the temporal patterns overall are fairly weak with many insignificant interaction coefficients, some of the coefficients are quite economically significant. The April and May interaction terms in the *Interest Rate Spread* regressions in Panel A column (1) suggest that relationship borrowers suffer increases in spreads of 20 to 26 basis points relative to other borrowers in these months.

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5.2. Falsification Tests

Table 4 Panels A and B give results of falsification tests for term loans and revolvers, respectively, to address concerns that contemporaneous shocks or preexisting trends may drive our main results. We move our sample period one year back to April 1, 2017 – June 30, 2019, and employ *Fake COVID-19 Shocks*, which are the 2020 COVID-19 shocks reassigned to the same calendar days one year earlier. That is, we act as if the public health shocks started on January 21, 2019, instead of January 21, 2020, and the government activity restrictions shocks started on March 1, 2019, instead of February 29, 2020 (i.e., we adjust for no leap day in 2019).

The coefficients on the interaction terms between *Rel Exist* and *Fake COVID-19 Shock* are mostly insignificant, which generally supports that our main findings for the real crisis are not by driven by contemporaneous shocks or preexisting trends.[14]

5.3. Alternative Relationship Measures

Table 5 shows findings using two alternative measures of *Relationship*. We reestimate our main regressions replacing relationship existence (*Rel Exist*) with relationship intensity (*Rel Intens*) and relationship length (*Rel Length*). Panels A1 and A2 show results for *Rel Intens* for term loans and revolvers, respectively, and Panels B1 and B2 similarly display findings for *Rel Length*.

The *Rel Intens* results in Panels A1 and A2 show only unfavorable significant results for relationship borrowers relative to other borrowers in response to the COVID-19 shocks, with somewhat different loan contract terms having statistically significant coefficients for term loans and revolvers. The *Rel Length* coefficients in Panels B1 and B2 paint a similar picture, with the exception of loan amounts for term loans. These findings again largely support the dark side of

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[14] We find significance in only five out of 32 cases: once for *Interest Rate Spread* and four times for *Collateral*. The fake COVID-19 interaction term is never significant for *Ln(Maturity)* and *Ln(Loan Amount)*. In unreported results, the COVID-19 crisis is assumed to occur two years prior to the actual crisis and results are qualitatively similar.

relationships and the empirical domination of the hold-up problem over the shared benefits of relationships when borrowers are in need during crises.

Table 6 shows an additional analysis in which we reestimate our main results after splitting *Rel Exist* into *TL Rel Exist* and *RV Rel Exist*. These are indicators for the existence of one or more prior term loans and revolvers, respectively, from the current bank in the past three years. Both variables may equal one simultaneously if the borrower has both types of recent loans from this bank. Prior research suggests that revolvers may more often be associated with private information acquisition through relationship lending than term loans, which are more frequently transactions-based (Berger and Udell, 1995; Mester, Nakamura, and Renault, 2007; Norden and Weber, 2010). To our knowledge, inclusion of and comparison between the two types of bank-firm relationships in the same analysis are novel to the literature, although one paper examines different types of bank-consumer relationships (Puri, Rocholl, and Steffen, 2017).

Table 6 Panels A and B show results for term loans and revolvers, respectively. Our main finding that relationship borrowers fare poorly relative to other borrowers in response to the COVID-19 shocks is upheld for both term loans and revolvers. For term loans, this finding is primarily driven by revolver relationships, consistent with the research suggesting that revolvers are more associated with relationship lending. However, for revolvers, both types of relationships lead to unfavorable outcomes for relationship borrowers during the crisis.[15]

5.4. Alternative COVID-19 Shocks

Table 7 Panels A-D provide results for replacing the four main COVID-19 public health and

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[15] An additional concern is that the results could be driven by firms in a few states in which the proportions of relationship loans are particularly high or low. To address this, we conduct robustness checks in which we discard observations from states with the lowest *REL_EXIST* proportions in our sample (<0.3). We also conduct tests in which we throw out observations from states with the highest *REL_EXIST* proportions (>=0.7). After removing these potential outliers, our main findings remain materially unchanged. These findings are not tabulated for brevity.

government activity restrictions shocks with an additional 10 shocks described in Table 1. Each panel shows results for a different loan contract term, and the "1" and "2" subpanels give findings for term loans and revolvers, respectively.

All statistically significant findings for the interaction terms in Table 7 suggest relationship borrowers fare relatively poorly in response to the COVID-19 shocks. These results again support our main finding of the empirical dominance of the dark side of relationships in times of need.[16]

6. Differences by Firm and Bank Sizes and Other Firm, Loan, and Bank Characteristics

As discussed, the empirical literature generally suggests that small firms are more likely to benefit from relationship lending and small banks are more likely to deliver such benefits. Here we test these predictions to see whether there may be pockets of bright-side findings for smaller firms and smaller banks within our overall results.

We acknowledge that we do not have data on the smallest firms or the smallest banks. The Y-14Q explicitly excludes loans below $1 million and "small business loans." The dataset also explicitly excludes banks with under $100 billion in assets. Nonetheless, we test whether the literature's predictions apply to firms with total assets under $25 million versus larger firms and sample banks outside the Top 4 versus the Top 4 banks.

We construct triple quasi-DID terms: *Rel Exist × COVID-19 Shock × Smaller Firm* captures the differential effects on loan contract terms for smaller relationship borrowers versus larger ones during the COVID-19 crisis, while *Rel Exist × COVID-19 Shock × Smaller Bank* captures the differential effects on loan contact terms for relationship borrowers at smaller banks

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[16] In additional untabulated robustness checks, we find that our main results in Table 2 hold using the alternative sets of fixed effects. They hold for *bank × state × time* fixed effects, which allow us to compare loan terms among borrowers of the same bank in the same state for loans in the same quarter. Our main results also hold when we use *private rating × time* fixed effects, which allow for comparison of loan contract terms for borrowers of similar credit quality in the same quarter.

versus larger ones during such times. Every regression also includes all three double interaction terms and the uninteracted terms.

Table 8 Panels A1 and A2 show the findings for term loans and revolvers for smaller firms and B1 and B2 give analogous results for smaller banks. The results provide only limited support for the bright side for smaller firms and smaller banks. Most of the triple interactions are statistically insignificant, but the significant coefficients almost all are in the direction of more favorable terms for smaller relationship borrowers and relationship borrowers at smaller banks.

We also investigate other dimensions of cross-sectional smoothing based on other firm, loan, and bank characteristics. We construct triple interactions by interacting *Rel Exist × COVID-19 Shock* with dummies for high firm risk (high leverage), high loan risk (non-investment grade risk rating by the bank), and poor bank health (low capital, high nonperforming loans ratios, or low liquidity). We find little in the way of consistent results for the triple interaction terms, suggesting that banks do not significantly smooth by firm or loan risk, and that smoothing does not significantly differ between more and less financially healthy banks. These findings are not tabulated for brevity, but are available on request.

7. Effects of PPP on Relationship Lending during the COVID-19 Crisis

Our final set of tests considers potential differences in how relationship borrowers fare relative to other borrowers in the COVID-19 crisis when the bank extending the loan is more or less heavily involved in the PPP program. To be clear, all of the Y-14Q banks make PPP loans, but these loans are not included in the Y-14Q, and hence are not in our dataset. Prior analysis of PPP lending is summarized in the research reviewed in Section 1.3. Nonetheless, the extent of PPP involvement of the banks may affect relationship borrowers obtaining traditional bank loans, since banks earn fee income on PPP loans without having to screen or monitor the PPP recipients or suffer exposure

to any credit risk. The banks can use their additional PPP fee income to extend more favorable loan contract terms to their relationship customers. Alternatively, these banks may increase their bargaining power relative to these borrowers due to the extra fee income, resulting in harsher loan contract terms. To address this, we focus on high PPP banks, those with above median PPP loans relative to total assets at the end of 2020:Q2, our only sample quarter during which the program was in effect.

Table 9 Panels A1 and A2 show the results of regressions in which we interact *Rel Exist × COVID-19 Shock* with a *High PPP Bank* dummy, similar to the setup for smaller firms and smaller banks above. The coefficients on the triple quasi-DID terms show mixed results for term loans (lower spreads, but higher likelihood of collateral) and negative effects for revolvers (higher likelihood of collateral), suggesting somewhat worse overall treatment of relationship borrowers at High PPP banks. Our main findings of empirical dominance of the dark side of relationships during the COVID-19 crisis are generally upheld for both sets of banks.

8. Conclusions

Relationship lending is vital to borrowers in normal times and may be even more important during crises, when borrowers are most in need and the value of the soft information generated by relationship lending may be maximized. We address whether relationship borrowers fare better or worse than other borrowers during the COVID-19 crisis using a quasi-DID framework. We regress a number of loan contract terms on several relationship measures, numerous COVID-19 shocks constructed from public health and government activity restrictions data, interactions of the relationship measures and the shocks (the quasi-DID terms), and controls.

We find strong, robust results consistent with the empirical dominance of the dark side of relationships during the COVID-19 crisis. The findings hold across loan contract terms,

relationship measures, COVID-19 shocks, and loan types. Banks do not appear to be friends indeed with their relationship borrowers in need. However, there are limited pockets of bright-side findings associated with smaller firms and smaller banks.

Our results differ greatly from those in the literature for earlier crises, likely due to our use of the COVID-19 crisis. The COVID-19 shocks directly harm businesses rather than banks, so we are able to directly investigate whether relationship borrowers fare better or worse when ***borrowers*** are in need, rather than when ***banks*** are in need as in prior crises. Unlike shocks from prior crises such as the Global Financial Crisis (GFC), these shocks are also essentially exogenous to and unforeseen by the borrowers and banks, mitigating potential estimation biases.

Our findings raise the question of why banks might exploit their market power over relationship borrowers more during the COVID-19 crisis. As discussed above, the soft information gathered through relationships (e.g., character of the business owner) may retain its value, while some hard information (e.g., value of commercial real estate) may become less valuable during this crisis. The increased relative value of the soft information may give the relationship banks significantly more market power to exploit during the crisis. A second possibility is that relationship banks try to earn higher profits and build up equity capital in the short run from the harsher contract terms for relationship borrowers to help offset the expected credit losses from the crisis. A third potential reason is that these banks give relatively better contract terms to non-relationship borrowers to gain market share during this turbulent time. Unfortunately, our data are incapable of differentiating among these alternatives.

Our results may have implications for firms, banks, policymakers, and future researchers. The findings suggest that firms may not be able to count on relief from their relationship banks during rare exogenous shocks or "black swan" events. Firms with established banking

relationships may consider taking out additional backup revolvers to protect themselves from such events or borrow from additional banks to offset the market power of their relationship banks (e.g., Detragiache, Garella, and Guiso, 2000). In contrast, firms without established banking relationships may gain from relatively easier contact terms. Relationship banks that are earning more from the harsh contract terms to their relationship borrowers during the crisis may suffer later to the extent that they lose some relationship customers or endure more credit losses due to aggravation of moral hazard and adverse selection problems. Other banks may gain by recruiting borrowers away from their relationship banks. Policymakers may be worried by financial stability implications of any associated bank credit losses that are not sufficiently buffered by increased bank capital. Policymakers may also be concerned about potential harm to the real economy from reduced hiring or capital expenditures by relationship borrowers. Future researchers may be able to trace out medium- and long-term effects of the relatively harsh loan contract terms on relationship borrowers and the real economies in their local markets.

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Figure 1. COVID-19 Shock Intensity Measures

Panels A – D show our main COVID-19 intensity measures at different points in time: *US New Cases / 100K Pop* (Panel A); *State New Cases / 100K Pop* (Panel B); *US Restrict Index* (Panel C); and *State Restrict Index* (Panel D). Panels E and F show auxiliary graphs: the evolution of the 10 government activity restrictions included in *US Restrict Index*, aggregated over all the states (Panel E); and *State Restriction Index* in each state (Panel F).

Panel A: *US New Cases /100K Pop*
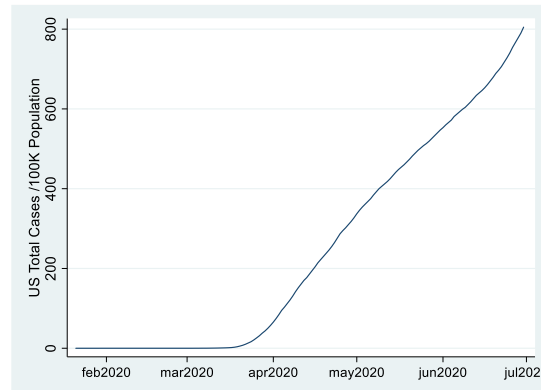
Panel B: *State New Cases/100K Pop* (Darker colors represent higher new case rates. We present 5 groups: 0 new cases; (0, 10) new cases; [10, 20) new cases; [20, 30) new cases, and ≥30 new cases.)

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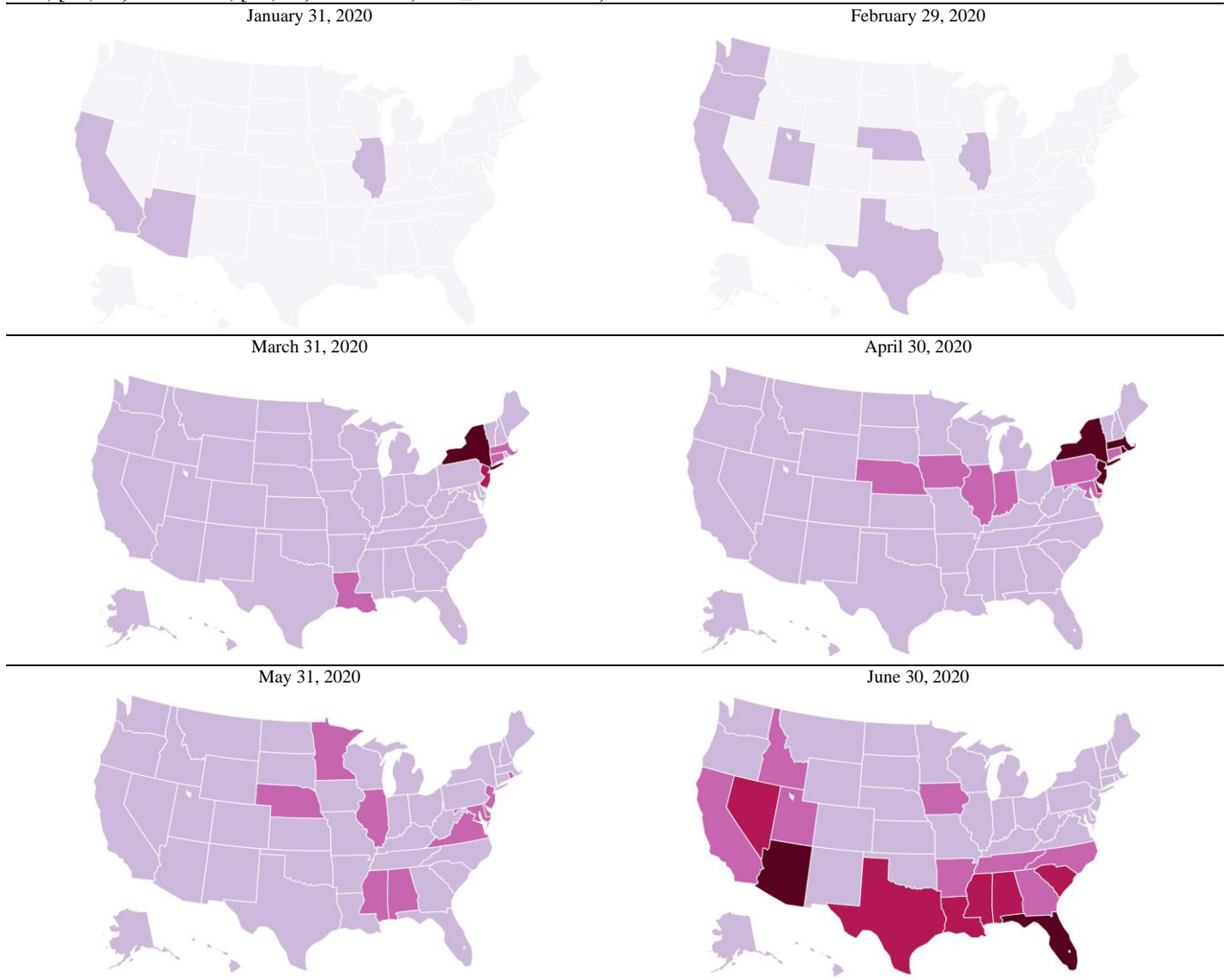
Panel C: *US Restrict Index* (The Index is a state-population weighted average of 10 individual U.S. state government activity restrictions for COVID-19; the index runs from 0 (no restrictions) to 10 (maximum number of imposed restrictions)).

U.S. State Restrictions:
(1) Emergency Declaration
(2) Stay-at-Home Restriction
(3) Non-essential Business Close
(4) Other Business Close
(5) Restaurant Restrictions
(6) Bar Restrictions
(7) School Close
(8) Gathering Restrictions
(9) Travel Restrictions
(10) Quarantine/Case Isolation
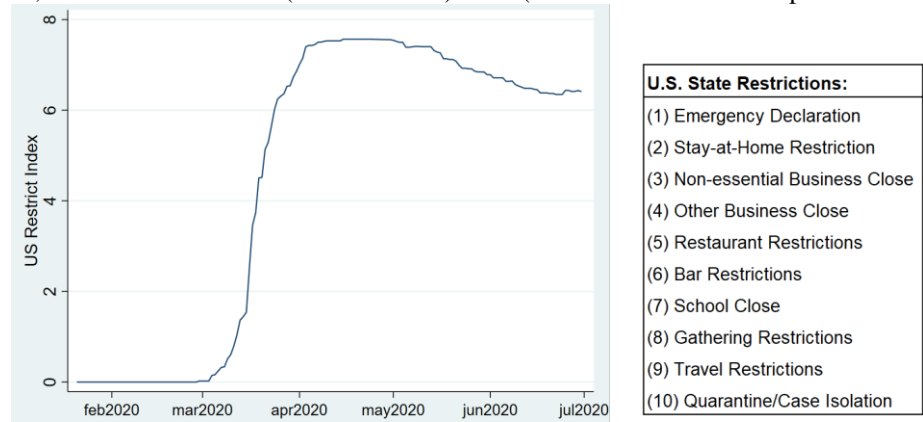
Panel D: *State Restrict Index* (The index ranges from 0 (no government activity restrictions) to 10 (maximum number of restrictions imposed); light colors indicate no restrictions; darker colors indicate more government activity restrictions.)

January 31, 2020

February 29, 2020

March 31, 2020

April 30, 2020

May 31, 2020

June 30, 2020
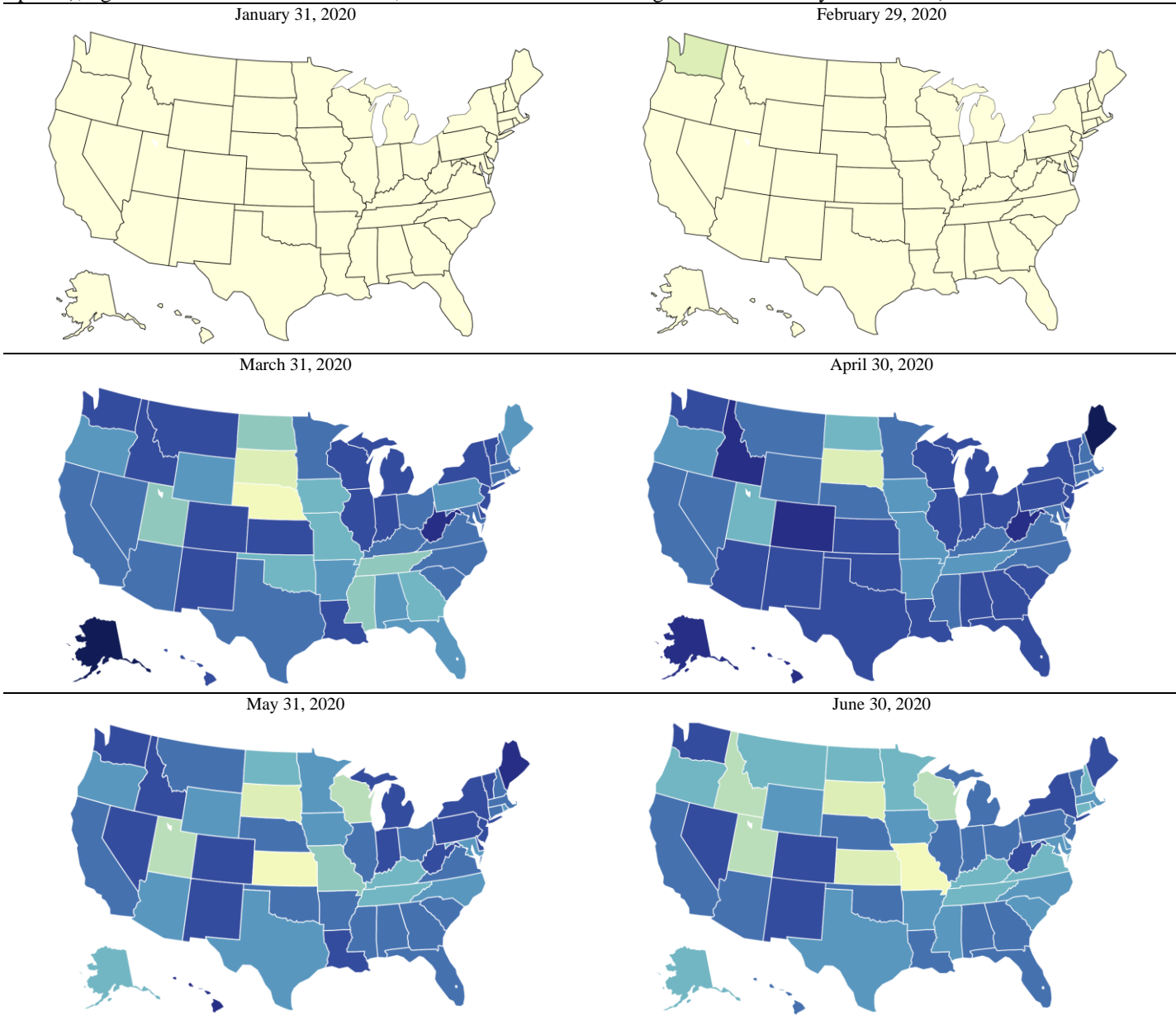
Panel E: Number of U.S. states under individual restrictions over time (includes every contiguous U.S. state plus D.C.).
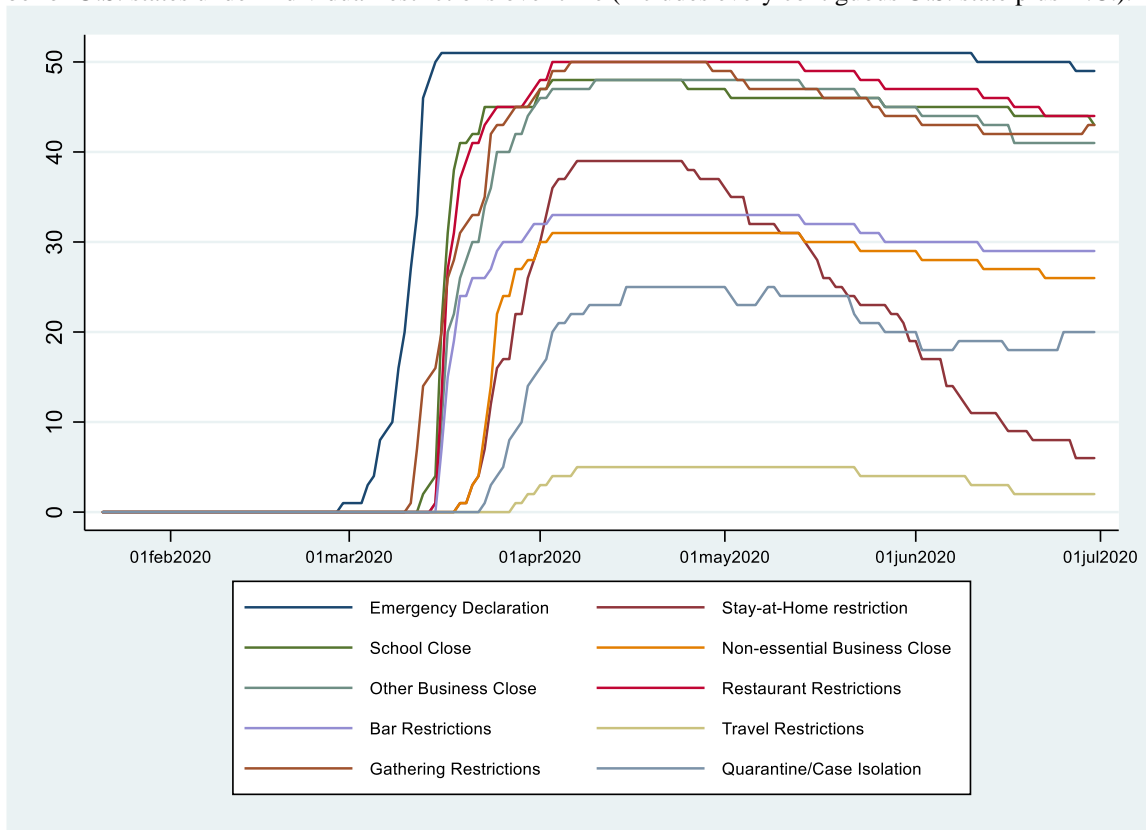
Panel F: *State Restrict Index* by state over time (each data point is an average for that state over the entire month)
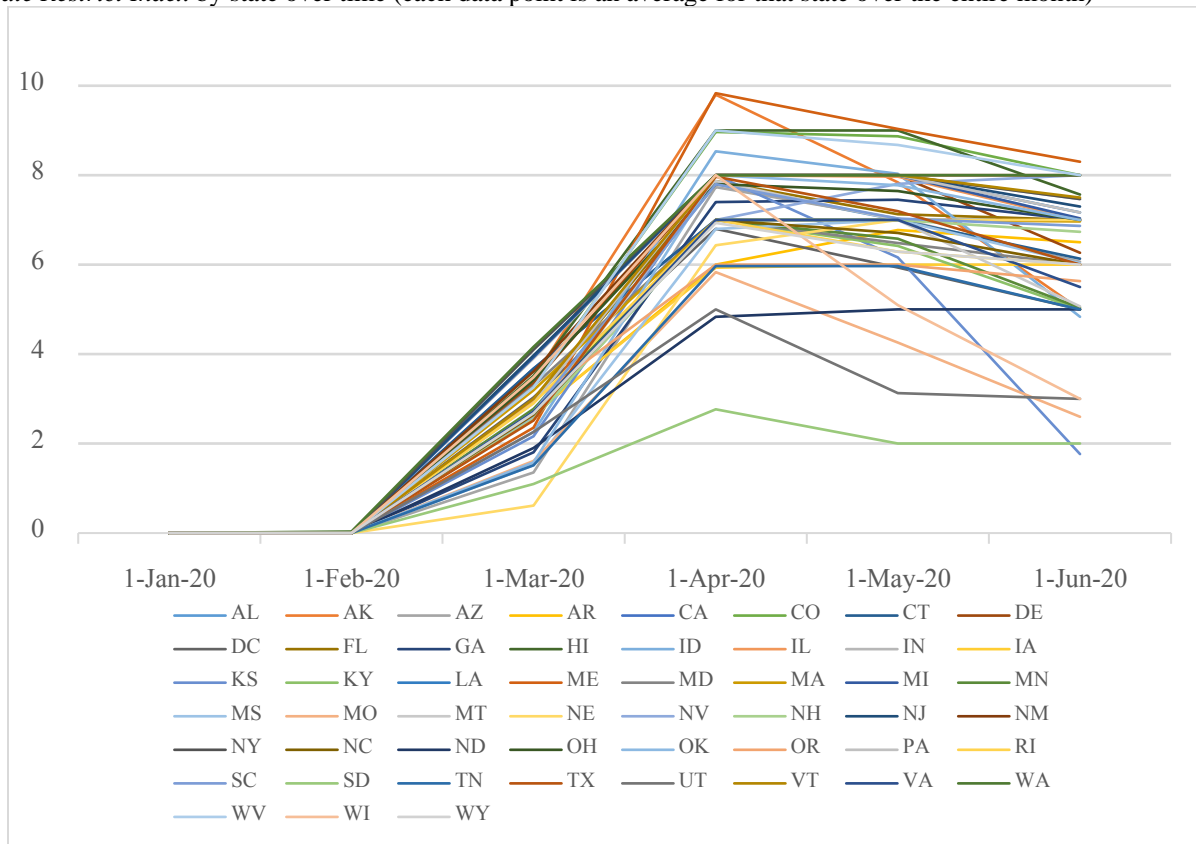
Table 1. Variable Definitions and Summary Statistics

The sample includes new corporate loans reported in the Y-14Q by banks with total assets above $100 billion. Panel A provides variable descriptions and their sources. The data are merged using their most recent available values. Panels B and C display means of the dependent variables and independent variables plus a few additional variables, respectively. These summary statistics are shown separately for term loans and revolvers for: the whole sample period (April 1, 2018 – June 30, 2020), the pre-health shock period (April 1, 2018 – January 20, 2020), the health-shock period (January 21, 2020 – June 30, 2020), the pre-government activity-restrictions shock period (April 1, 2018 – February 28, 2020), and the government activity restrictions shock period (February 29, 2020 – June 30, 2020). The health shock started on the date when the first COVID-19 case was identified in the U.S., while the restrictions shock started on the date when the first state restrictions due to COVID-19 became active in the U.S. in Washington state.

Panel A. Variable Description and Sources

Variables:	Description:	Source:
MAIN SAMPLE SPLITS		
Term Loans	Includes the following categories: Term Loan, Term Loan A, Term Loan B, and Term Loan C. Excluded are: bridge term loans, asset-based term loans, and debtor-in-possession term loans.	FR Y-14Q Schedule H.1
Revolvers	Revolving lines of credit. Excluded are: revolvers that convert to term loans; debtor-in-possession revolvers; non-revolving lines of credit; and non-revolving lines of credit that convert to term loans.	FR Y-14Q Schedule H.1
DEPENDENT VARIABLES		
Interest Rate Spread	Interest rate spread over the rate of a constant maturity Treasury bond with a similar maturity.	FR Y-14Q Schedule H.1
Collateral	Dummy = 1 if the loan is collateralized.	FR Y-14Q Schedule H.1
Maturity (in years) *(excl. from regressions)*	Number of years from date of origination to date of maturity.	FR Y-14Q Schedule H.1
Ln(Maturity)	Natural log of one plus maturity, the number of years from date of origination to date of maturity.	FR Y-14Q Schedule H.1
Loan Amount ($ million) *(excl. from regressions)*	Loan size in $ million.	FR Y-14Q Schedule H.1
Ln(Loan Amount)	Natural log of one plus the loan amount, the size of the loan in $ million.	FR Y-14Q Schedule H.1
INDEPENDENT VARIABLES		
Relationship Variables		
Rel Exist	Dummy = 1 if the borrower had prior loans with the bank over the past three years.	FR Y-14Q Schedule H.1
Rel Intens	Ratio of the dollar value of loans the firm obtained from the lending bank to the total dollar value of loans provided to the firm over the past three years.	FR Y-14Q Schedule H.1
Rel Length	Natural log of one plus the length in years since the first loan the firm got from the bank.	FR Y-14Q Schedule H.1
TL Rel Exist	Dummy = 1 if the borrower had prior term loans with the bank over the past three years.	FR Y-14Q Schedule H.1
RV Rel Exist	Dummy = 1 if the borrower had revolvers with the bank over the past three years.	FR Y-14Q Schedule H.1
COVID-19 Variables		
Main Measures		
US New Cases/100K Pop	U.S. newly confirmed COVID-19 cases per 100,000 people, seven day moving avg.	The Economic Tracker
State New Cases/100K Pop	State newly confirmed COVID-19 cases per 100,000 people, seven day moving avg.	The Economic Tracker
US Restrict Index	U.S. government activity restrictions index, constructed as the state-population weighted average of 10 individual U.S. state activity restrictions for COVID-19. The 10 individual activity restrictions are listed below under State Restrict Index.	University of Washington COVID-19 Policies
State Restrict Index	State restrictions index, which captures 10 government mandated statewide restrictions with potential impact on economic activity: (1) Emergency Declaration; (2) Stay At Home; (3) Non-essential Business Close; (4) Other Business Close; (5) Restaurant Restrictions; (6) Bar Restrictions: (7) School Close; (8) Gathering Restrictions; (9) Travel Restrictions; and (10) Quarantine/Case Isolation orders. We add a 1 for each restriction that is present in a state. Thus, index values range from 0 to 10, with 10 being the most restrictive.	University of Washington COVID-19 Policies
Additional Measures		
US Health Crisis (≥ 100 cases)	Dummy = 1 from the date the 100th COVID-19 case was identified in the U.S.	Johns Hopkins Coronavirus Resource Center
State Health Crisis (≥ 100 cases)	Dummy = 1 from the date the 100th COVID-19 case was identified in the state.	Johns Hopkins Coronavirus Resource Center
US New Deaths/100K Pop	U.S. newly confirmed COVID-19 deaths per 100,000 people, seven day moving average.	The Economic Tracker
State New Deaths/100K Pop	State newly confirmed COVID-19 deaths per 100,000 people, seven day moving average.	The Economic Tracker
US Total Cases/100K Pop	U.S. confirmed total number of COVID-19 cases per 100,000 people, seven day moving average.	The Economic Tracker
State Total Cases/100K Pop	State confirmed COVID-19 cases per 100,000 people, seven day moving average.	The Economic Tracker
US Total Deaths/100K Pop	U.S. confirmed COVID-19 deaths per 100,000 people, seven day moving average.	The Economic Tracker
State Total Deaths/100K Pop	State confirmed COVID-19 deaths per 100,000 people, seven day moving average.	The Economic Tracker
US Economic Crisis	Dummy = 1 from Feb 29, 2020 onward (when the first state restrictions due to COVID-19 became active in the U.S. in Washington State).	University of Washington COVID-19 Policies
State GPS Immobility	Google GPS immobility indexed to Jan 3-Feb 6, 2020 showing time spent inside (rather than outside) of residential locations.	The Economic Tracker
Loan Controls		
Rating: HIG *(left-out category)*	Dummy = 1 if the bank internally rates the loan in the A range or above.	FR Y-14Q Schedule H.1
Rating: LIG	Dummy = 1 if the bank internally rates the loan in the BBB range.	FR Y-14Q Schedule H.1
Rating: HSG	Dummy = 1 if the bank internally rates the loan in the BB range.	FR Y-14Q Schedule H.1

Rating: LSG	Dummy = 1 if the bank internally rates the loan in the B range or below.	FR Y-14Q Schedule H.1
Non-Inv Grade *(in sample split only)*	Dummy = 1 if the bank internally rates the loan in the BB range or below.	FR Y-14Q Schedule H.1
Non-Syndicated	Dummy = 1 if the loan is not a syndicated loan.	FR Y-14Q Schedule H.1
Floating Rate	Dummy = 1 if the loan is a floating-rate loan.	FR Y-14Q Schedule H.1
Mixed Rate	Dummy = 1 if the loan is a mixed-rate loan.	FR Y-14Q Schedule H.1
Purpose: Miscellaneous *(left-out category)*	Dummy = 1 if loan purpose is related to activities other than M&A or capital expenditures, general purpose, or commercial real estate.	FR Y-14Q Schedule H.1
Purpose: Acq/Capex	Dummy = 1 if loan purpose is related to M&A or capital expenditures.	FR Y-14Q Schedule H.1
Purpose: General	Dummy = 1 if loan purpose is general purpose.	FR Y-14Q Schedule H.1
Purpose: CRE	Dummy = 1 if loan purpose is related to commercial real estate.	FR Y-14Q Schedule H.1
Multi Facility has RV	Dummy = 1 if there is an additional revolver in the same loan package.	FR Y-14Q Schedule H.1
Multi Facility has TL	Dummy = 1 if there is an additional term loan in the same loan package.	FR Y-14Q Schedule H.1
Firm Controls		
Size *(excl. from regressions)*	Firm size, measured by total assets in $ million.	FR Y-14Q Schedule H.1
Size: <$25mil *(left-out category)*	Dummy = 1 if firm size is up to $25 million. This group is referred to as small firms.	FR Y-14Q Schedule H.1
Size: [$25mil, $250mil]	Dummy = 1 if firm size is between $25 million and $250 million.	FR Y-14Q Schedule H.1
Size: ≥$250mil	Dummy = 1 if firm size exceeds $250 million.	FR Y-14Q Schedule H.1
Size: Missing	Dummy = 1 if firm size is missing.	FR Y-14Q Schedule H.1
Past Delinquency	Dummy = 1 if the firm had a loan 90 days past due.	FR Y-14Q Schedule H.1
ROA	Return on the assets of the firm, calculated as net income/ total assets.	FR Y-14Q Schedule H.1
ROA Missing	Dummy = 1 if firm ROA is missing.	FR Y-14Q Schedule H.1
Leverage Ratio	Leverage ratio of the firm.	FR Y-14Q Schedule H.1
Leverage Missing	Dummy = 1 if the firm leverage ratio variable is missing.	FR Y-14Q Schedule H.1
Ln(Exposure TL)	Natural log of one plus the total $ amount of term loans the firm has from this bank.	FR Y-14Q Schedule H.1
Ln(Exposure RV)	Natural log of one plus the total $ amount of revolvers the firm has from this bank.	FR Y-14Q Schedule H.1
Ln(Unused Exp RV)	Natural log of one plus the total $ amount of unused lines the firm has from this bank.	FR Y-14Q Schedule H.1
Ln(Unused Exp Other)	Natural log of one plus the total $ amount of other loans the firm has from this bank.	FR Y-14Q Schedule H.1
Private	Dummy = 1 if the firm is a private firm.	FR Y-14Q Schedule H.1
Public Debt Rating	Dummy = 1 if the firm has a public debt rating.	COMPUSTAT[17]
Bank Controls		
Size ($mil)	Bank total assets in $ million.	FR Y-9C
Ln(Size)	Natural log of one plus the bank total assets.	FR Y-9C
Capital Ratio	Equity ratio, calculated as total equity/total assets.	FR Y-9C
NPL Ratio	Non-performing loan ratio, calculated as (loans at least 90 days past due or in nonaccrual status)/total assets.	FR Y-9C
Liquidity Ratio	Liquid asset ratio, calculated as (cash + marketable securities)/total assets.	FR Y-9C
ROA	Return on assets, calculated as net income/ total assets.	FR Y-9C
County Controls		
Unemployment Rate	County unemployment rate.	U.S. Census / Haver Analytics
HPI	County Housing Price Index.	Corelogic Solutions
Change HPI	One-month change in county HPI.	Corelogic Solutions
Population Density	County population density (population over square miles).	U.S. Census Bureau
Other Variable		
High Leverage Firm	Dummy = 1 if the firm leverage ratio is higher than the sample median.	FR Y-14Q Schedule H.1
Smaller Bank	Dummy = 1 if bank is not in the top four lenders in terms of bank total assets.	FR Y-9C
Low Capital Bank	Dummy = 1 if the bank capital ratio is lower than the sample median.	FR Y-9C
High NPL Bank	Dummy = 1 if the bank NPL ratio is higher than the sample median.	FR Y-9C
Low Liquidity Bank	Dummy = 1 if the bank liquidity ratio is lower than the sample median.	FR Y-9C
High PPP Bank	Dummy = 1 if bank PPP loans scaled by total assets is higher than the sample median.	FR Y-9C

Panel B. Summary Statistics - Dependent Variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Sample/Subsample	Full Sample	Pre-Health Shock	During Health Shock	Pre-Restrict Shock	During Restrict Shock	Full Sample	Pre-Health Shock	During Health Shock	Pre-Restrict Shock	During Restrict Shock
	Term Loans					**Revolvers**				
Number of Obs.	27,153	21,432	5,721	22,653	4,500	26,184	19,645	6,539	20,868	5,316
Interest Rate Spread	2.091	1.973	2.535	1.980	2.651	2.346	2.224	2.729	2.217	2.900
Collateral	0.826	0.825	0.829	0.827	0.818	0.736	0.728	0.758	0.732	0.752
Maturity (in years) *(excl. from regressions)*	5.665	5.672	5.639	5.690	5.538	1.642	1.703	1.458	1.698	1.421
Ln(Maturity)	1.334	1.343	1.299	1.347	1.267	0.205	0.234	0.116	0.233	0.095
Loan Amount ($mill) *(excl. from regressions)*	33.653	34.507	30.454	34.469	29.545	63.742	64.287	62.105	62.692	67.864
Ln(Loan Amount)	15.231	15.217	15.285	15.217	15.303	15.528	15.496	15.622	15.489	15.679

Panel C. Summary Statistics – Independent Variables

Sample/Subsample	Term Loans					Revolvers				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Full Sample	Pre-Health Shock	During Health Shock	Pre-Restrict Shock	During Restrict Shock	Full Sample	Pre-Health Shock	During Health Shock	Pre-Restrict Shock	During Restrict Shock
Number of Obs.	27,153	21,432	5,721	22,653	4,500	26,184	19,645	6,539	20,868	5,316
Relationship Variables										
Rel Exist	0.407	0.401	0.429	0.400	0.440	0.432	0.433	0.429	0.430	0.441
Rel Intens	0.328	0.323	0.345	0.322	0.357	0.399	0.401	0.390	0.399	0.397
Rel Length	1.730	1.663	1.983	1.668	2.043	2.067	1.993	2.287	1.990	2.365
TL Rel Exist	0.076	0.074	0.082	0.074	0.086	0.346	0.351	0.331	0.348	0.336
RV Rel Exist	0.304	0.300	0.319	0.300	0.325	0.096	0.095	0.099	0.093	0.108
COVID-19 Shock Variables										
Main Measures										
US New Cases/100K Pop	1.028	0.000	4.881	0.000	n/a	1.336	0.000	5.351	0.000	n/a
State New Cases/100K Pop	0.938	0.000	4.452	0.000	n/a	1.259	0.000	5.042	0.000	n/a
US Restrict Index	0.999	0.000	n/a	0.000	6.029	1.268	0.000	n/a	0.000	6.247
State Restrict Index	0.886	0.000	n/a	0.000	5.349	1.150	0.000	n/a	0.000	5.663
Additional Measures										
US Health Crisis (≥ 100 cases)	0.161	0.000	0.766	0.000	n/a	0.198	0.000	0.793	0.000	n/a
State Health Crisis (≥ 100 cases)	0.128	0.000	0.606	0.000	n/a	0.164	0.000	0.659	0.000	n/a
US New Deaths/100K Pop	0.049	0.000	0.235	0.000	n/a	0.067	0.000	0.268	0.000	n/a
State New Deaths/100K Pop	0.047	0.000	0.225	0.000	n/a	0.065	0.000	0.260	0.000	n/a
US Total Cases/100K Pop	50.539	0.000	239.867	0.000	n/a	66.906	0.000	267.910	0.000	n/a
State Total Cases/100K Pop	46.810	0.000	222.168	0.000	n/a	64.433	0.000	258.010	0.000	n/a
US Total Deaths/100K Pop	2.738	0.000	12.995	0.000	n/a	3.665	0.000	14.674	0.000	n/a
State Total Deaths/100K Pop	2.653	0.000	12.590	0.000	n/a	3.609	0.000	14.450	0.000	n/a
US Economic Crisis	0.166	0.000	n/a	0.000	1.000	0.203	0.000	n/a	0.000	1.000
State GPS Immobility	0.022	0.000	n/a	0.000	0.131	0.028	0.000	n/a	0.000	0.136
Loan Controls										
Rating: HIG (left out category)	0.076	0.070	0.099	0.069	0.109	0.122	0.122	0.123	0.121	0.125
Rating: LIG	0.244	0.250	0.221	0.248	0.220	0.290	0.295	0.276	0.293	0.28
Rating: HSG	0.518	0.525	0.492	0.524	0.487	0.410	0.415	0.394	0.415	0.387
Rating: LSG	0.163	0.156	0.188	0.158	0.184	0.178	0.169	0.207	0.171	0.207
Non-Inv Grade	0.681	0.681	0.680	0.682	0.672	0.588	0.584	0.601	0.586	0.594
Non-Syndicated	0.957	0.959	0.950	0.959	0.948	0.929	0.929	0.930	0.930	0.927
Floating Rate	0.416	0.423	0.388	0.422	0.385	0.522	0.533	0.489	0.536	0.468
Mixed Rate	0.082	0.082	0.083	0.082	0.085	0.417	0.404	0.455	0.401	0.479
Purpose: Miscellaneous (left out category)	0.229	0.219	0.266	0.220	0.275	0.280	0.290	0.248	0.292	0.230
Purpose: Acq/Capex	0.241	0.251	0.203	0.250	0.196	0.020	0.022	0.017	0.022	0.016
Purpose: General	0.292	0.294	0.281	0.294	0.282	0.681	0.667	0.725	0.665	0.744
Purpose: CRE	0.237	0.234	0.25	0.235	0.247	0.019	0.022	0.011	0.021	0.011
Multi-Facility has RV	0.061	0.059	0.068	0.061	0.063	0.72	0.839	0.362	0.841	0.245
Multi-Facility has TL	0.740	0.824	0.426	0.826	0.308	0.054	0.056	0.047	0.057	0.041
Firm Controls										
Size (excl. from regressions)	2.794	2.720	3.049	2.680	3.320	3.296	3.455	2.878	3.328	3.188
Size: <$25mil (Small Firm, left-out category)	0.145	0.135	0.183	0.138	0.180	0.216	0.200	0.265	0.203	0.269
Size: [$25mil, $250mil]	0.231	0.234	0.219	0.234	0.218	0.162	0.162	0.162	0.162	0.159
Size: ≥$250mil	0.147	0.144	0.158	0.143	0.165	0.135	0.133	0.141	0.131	0.151
Size: Missing	0.477	0.487	0.440	0.485	0.437	0.486	0.505	0.431	0.503	0.421
Past Delinquency	0.054	0.052	0.062	0.051	0.066	0.052	0.049	0.059	0.048	0.065
ROA	0.048	0.046	0.053	0.046	0.053	0.051	0.046	0.065	0.046	0.067
ROA Missing	0.514	0.521	0.490	0.518	0.493	0.520	0.535	0.472	0.533	0.466
Leverage Ratio	0.404	0.406	0.398	0.406	0.396	0.313	0.313	0.313	0.312	0.316
Leverage Missing	0.491	0.499	0.460	0.498	0.457	0.539	0.554	0.492	0.554	0.481
Private	0.938	0.938	0.935	0.939	0.933	0.920	0.919	0.922	0.920	0.917
Public Debt Rating	0.030	0.029	0.033	0.029	0.036	0.030	0.030	0.031	0.030	0.034
Bank Controls										
Size ($mil)	1121.613	1120.088	1127.327	1120.469	1127.373	966.576	946.583	1026.641	952.675	1021.144
Ln(Size)	20.163	20.159	20.176	20.162	20.168	19.938	19.901	20.049	19.910	20.047
Capital Ratio	0.115	0.116	0.112	0.116	0.111	0.110	0.111	0.106	0.111	0.106
NPL Ratio	0.010	0.011	0.009	0.010	0.009	0.009	0.009	0.009	0.009	0.009
Liquidity Ratio	0.247	0.247	0.249	0.247	0.251	0.297	0.299	0.292	0.299	0.291
ROA	0.003	0.003	0.002	0.003	0.001	0.003	0.003	0.002	0.003	0.001
County Controls										
Unemployment Rate	3.363	3.105	4.331	3.115	4.614	3.555	3.163	4.736	3.167	5.082
HPI	172.630	170.702	179.852	171.310	179.271	174.370	172.847	178.944	173.308	178.539
Change in HPI	0.003	0.003	0.005	0.003	0.006	0.003	0.003	0.005	0.003	0.007
Population Density	3241.5	3192.7	3424.4	3217.0	3365.2	4039.9	4054.3	3996.5	4071.8	3914.4
Other Variables										
High Leverage Firm	0.295	0.289	0.317	0.291	0.316	0.189	0.179	0.218	0.179	0.226

Smaller Bank	0.581	0.572	0.616	0.573	0.623	0.648	0.646	0.655	0.644	0.665
Low Capital Bank	0.405	0.387	0.474	0.391	0.476	0.522	0.505	0.574	0.512	0.559
High NPL Bank	0.546	0.563	0.479	0.562	0.461	0.429	0.427	0.438	0.429	0.433
Low Liquidity Bank	0.498	0.490	0.528	0.494	0.518	0.486	0.477	0.512	0.481	0.504
PPP Loans Ratio	0.019	0.019	0.020	0.019	0.020	0.017	0.017	0.018	0.017	0.018
High PPP Bank	0.657	0.673	0.597	0.674	0.570	0.562	0.577	0.517	0.575	0.513

Table 2. Loan Terms for Relationship Borrowers during the COVID-19 Shock

This table reports OLS regression estimates to assess how COVID-19 affects the terms on newly issued loans to relationship borrowers. Results are presented separately for term loans (Panel A) and revolvers (Panel B). In each panel, four loan contract terms are regressed on one of our main COVID-19 shock variables, a relationship existence dummy, the interaction of the two, a large set of explanatory variables, and bank and industry fixed effects. The loan contract terms are: *Interest Rate Spread*, loan spread over the rate of a constant maturity U.S. Treasury bond with similar maturity; *Collateral*, a dummy = 1 if the loan is collateralized; *Ln(Maturity)*, the natural log of one plus maturity, the number of years from date of origination to date of maturity; and *Ln(Loan Amount)*, the natural log of one plus loan amount, the size of the loan in $ million. There are four main COVID-19 shock variables: *US New Cases/100K Pop* (U.S. newly confirmed COVID-19 cases per 100,000 people, seven-day moving average); *State New Cases/100K Pop* (state newly confirmed COVID-19 cases per 100,000 people, seven-day moving average); *US Restrict Index* (U.S. restrictions index, constructed as the state-population weighted average of 10 individual U.S. state restrictions for COVID-19); and *State Restrict Index* (State restrictions index, which captures 10 mandated statewide restrictions with potential impact on economic activity: (1) Emergency Declaration; (2) Stay at Home; (3) Non-essential Business Close; (4) Other Business Close; (5) Restaurant Restrictions; (6) Bar Restrictions; (7) School Close; (8) Gathering Restrictions; (9) Travel Restrictions; and (10) Quarantine/Case Isolation orders. We add a 1 for each restriction that is present in a state.) *Rel Exist* is a dummy equal to 1 if the borrower had a prior loan with the bank over the past three years. The sample includes corporate loans reported in the Y-14Q by banks with total assets above $100 billion between April 1, 2018, and June 30, 2020. All variables are defined in Table 1. Standard errors are clustered at the bank × industry level. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Term Loans

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index
Rel Exist × COVID-19 Shock	0.024***	0.013***	0.023***	0.018**	0.001	0.002*	0.001	0.006**	-0.013**	-0.008**	-0.015**	-0.019***	-0.008	0.001	-0.007	-0.008
	(3.59)	(2.65)	(2.79)	(2.30)	(0.40)	(1.70)	(0.62)	(2.58)	(-2.58)	(-2.09)	(-2.49)	(-2.90)	(-1.31)	(0.15)	(-1.05)	(-1.16)
Rel Exist	-0.013	0.003	-0.014	-0.001	-0.059***	-0.061***	-0.060***	-0.064***	-0.225***	-0.231***	-0.223***	-0.221***	0.058**	0.049*	0.057**	0.058**
	(-0.46)	(0.10)	(-0.48)	(-0.04)	(-5.52)	(-5.74)	(-5.56)	(-5.74)	(-9.79)	(-10.33)	(-9.70)	(-9.70)	(2.16)	(1.90)	(2.12)	(2.11)
COVID-19 Shock	0.032***	-0.006*	0.062***	0.022***	0.004	-0.002*	-0.010	-0.000	0.002	0.007***	-0.034	0.040***	-0.023	-0.003	-0.028	0.027***
	(4.41)	(-1.75)	(6.79)	(2.88)	(0.44)	(-1.66)	(-0.60)	(-0.12)	(0.06)	(2.61)	(-0.58)	(4.46)	(-0.86)	(-0.67)	(-0.54)	(2.76)
Loan Controls																
Rating: LIG	0.336***	0.335***	0.338***	0.338***	0.044**	0.045**	0.044**	0.044**	0.046	0.044	0.046	0.048	-0.419***	-0.420***	-0.420***	-0.418***
	(6.55)	(6.55)	(6.59)	(6.59)	(2.26)	(2.28)	(2.26)	(2.26)	(0.94)	(0.90)	(0.93)	(0.98)	(-4.75)	(-4.77)	(-4.76)	(-4.74)
Rating: HSG	0.668***	0.667***	0.670***	0.669***	0.103***	0.104***	0.103***	0.103***	0.051	0.049	0.051	0.053	-0.668***	-0.670***	-0.669***	-0.667***
	(11.93)	(11.85)	(11.92)	(11.88)	(4.83)	(4.86)	(4.83)	(4.82)	(0.99)	(0.94)	(0.98)	(1.03)	(-6.94)	(-6.98)	(-6.95)	(-6.93)
Rating: LSG	1.287***	1.287***	1.288***	1.289***	0.126***	0.126***	0.126***	0.125***	-0.121**	-0.124**	-0.121**	-0.119**	-0.842***	-0.845***	-0.843***	-0.841***
	(16.59)	(16.59)	(16.62)	(16.59)	(5.53)	(5.54)	(5.52)	(5.49)	(-2.26)	(-2.33)	(-2.26)	(-2.22)	(-7.73)	(-7.78)	(-7.75)	(-7.74)
Non-Syndicated	-0.121	-0.125	-0.113	-0.121	0.125***	0.125***	0.125***	0.125***	-0.278***	-0.279***	-0.278***	-0.279***	-2.503***	-2.502***	-2.503***	-2.503***
	(-1.36)	(-1.40)	(-1.26)	(-1.36)	(4.78)	(4.80)	(4.78)	(4.80)	(-4.47)	(-4.50)	(-4.48)	(-4.48)	(-22.63)	(-22.64)	(-22.62)	(-22.60)
Floating Rate	0.017	0.015	0.019	0.015	-0.094***	-0.094***	-0.094***	-0.094***	-0.483***	-0.484***	-0.483***	-0.485***	0.520***	0.521***	0.520***	0.519***
	(0.43)	(0.39)	(0.50)	(0.38)	(-7.38)	(-7.40)	(-7.38)	(-7.41)	(-13.51)	(-13.58)	(-13.51)	(-13.55)	(12.94)	(13.02)	(12.94)	(12.99)
Mixed Rate	0.534	0.549	0.537	0.555	-0.038*	-0.038*	-0.038*	-0.038*	-0.903***	-0.903***	-0.903***	-0.905***	0.440***	0.439***	0.440***	0.438***
	(1.39)	(1.42)	(1.41)	(1.43)	(-1.84)	(-1.84)	(-1.83)	(-1.84)	(-12.22)	(-12.21)	(-12.22)	(-12.30)	(10.40)	(10.36)	(10.36)	(10.34)
Purpose: Acq/Capex	0.212***	0.205***	0.215***	0.211***	-0.048**	-0.048**	-0.048**	-0.048**	0.294***	0.294***	0.294***	0.294***	-0.053	-0.054	-0.054	-0.053
	(3.34)	(3.23)	(3.40)	(3.31)	(-2.21)	(-2.21)	(-2.21)	(-2.20)	(6.84)	(6.86)	(6.83)	(6.84)	(-1.10)	(-1.11)	(-1.10)	(-1.09)
Purpose: General	0.130**	0.122**	0.131**	0.128**	-0.123***	-0.123***	-0.122***	-0.122***	0.030	0.030	0.030	0.031	0.126**	0.125**	0.126**	0.126**
	(2.22)	(2.11)	(2.24)	(2.20)	(-4.99)	(-5.01)	(-4.99)	(-5.00)	(0.62)	(0.63)	(0.62)	(0.63)	(2.55)	(2.54)	(2.54)	(2.55)
Purpose: CRE	-0.014	-0.019	-0.014	-0.015	-0.006	-0.006	-0.006	-0.005	0.465***	0.466***	0.465***	0.465***	-0.012	-0.012	-0.012	-0.012
	(-0.25)	(-0.33)	(-0.24)	(-0.27)	(-0.27)	(-0.28)	(-0.27)	(-0.25)	(11.29)	(11.37)	(11.28)	(11.32)	(-0.24)	(-0.23)	(-0.24)	(-0.23)
Multi-Facility has RV	0.179**	0.172**	0.179**	0.174**	0.002	0.002	0.002	0.002	0.008	0.009	0.008	0.008	0.217***	0.217***	0.217***	0.217***
	(2.41)	(2.33)	(2.42)	(2.36)	(0.11)	(0.11)	(0.11)	(0.13)	(0.18)	(0.21)	(0.18)	(0.19)	(5.35)	(5.38)	(5.36)	(5.36)
Multi-Facility has TL	-0.232***	-0.293***	-0.204***	-0.260***	0.059***	0.058***	0.059***	0.058***	0.487***	0.487***	0.487***	0.487***	0.016	0.015	0.016	0.016
	(-5.96)	(-8.33)	(-5.31)	(-7.04)	(5.98)	(5.96)	(5.97)	(5.95)	(12.52)	(12.53)	(12.51)	(12.54)	(0.57)	(0.53)	(0.56)	(0.57)
Firm Controls																
Size: [$25mil, $250mil)	-0.270***	-0.262***	-0.273***	-0.266***	0.019**	0.019**	0.019**	0.018**	0.040	0.039	0.040	0.041	0.406***	0.405***	0.406***	0.407***
	(-9.18)	(-8.95)	(-9.33)	(-9.12)	(2.54)	(2.52)	(2.53)	(2.45)	(1.46)	(1.43)	(1.46)	(1.52)	(17.45)	(17.39)	(17.46)	(17.47)
Size: ≥$250mil	-0.295***	-0.287***	-0.296***	-0.290***	-0.024	-0.024	-0.024	-0.024	0.012	0.012	0.012	0.013	0.864***	0.864***	0.864***	0.865***
	(-4.80)	(-4.71)	(-4.81)	(-4.74)	(-1.55)	(-1.56)	(-1.55)	(-1.57)	(0.25)	(0.25)	(0.25)	(0.28)	(17.95)	(17.94)	(17.95)	(17.97)
Size: Missing	-0.218**	-0.225**	-0.204*	-0.216**	-0.028	-0.029	-0.029	-0.029	0.130	0.130	0.129	0.134	0.386***	0.384***	0.385***	0.389***

	(-2.05)	(-2.10)	(-1.93)	(-2.03)	(-1.13)	(-1.14)	(-1.14)	(-1.15)	(1.13)	(1.13)	(1.12)	(1.16)	(4.39)	(4.36)	(4.38)	(4.42)
Past Delinquency	-0.003	0.001	-0.005	-0.001	0.020	0.020	0.020	0.020	-0.106**	-0.106**	-0.106**	-0.106**	0.027	0.027	0.027	0.027
	(-0.06)	(0.01)	(-0.09)	(-0.02)	(1.16)	(1.16)	(1.16)	(1.16)	(-2.54)	(-2.54)	(-2.54)	(-2.54)	(0.46)	(0.46)	(0.46)	(0.46)
ROA	-0.104	-0.105	-0.104	-0.108	-0.009	-0.009	-0.009	-0.009	0.139**	0.139**	0.139**	0.136**	-0.159***	-0.159***	-0.159***	-0.161***
	(-1.41)	(-1.40)	(-1.40)	(-1.44)	(-0.48)	(-0.48)	(-0.48)	(-0.49)	(2.58)	(2.58)	(2.58)	(2.53)	(-3.12)	(-3.13)	(-3.12)	(-3.16)
ROA Missing	-0.117	-0.107	-0.130	-0.114	-0.067***	-0.067***	-0.067***	-0.067***	-0.113	-0.113	-0.112	-0.112	0.235***	0.235***	0.236***	0.236***
	(-1.34)	(-1.21)	(-1.52)	(-1.31)	(-2.94)	(-2.95)	(-2.94)	(-2.95)	(-0.99)	(-0.99)	(-0.98)	(-0.99)	(3.09)	(3.08)	(3.09)	(3.09)
Leverage Ratio	0.191***	0.188***	0.194***	0.191***	-0.011	-0.011	-0.011	-0.010	0.044	0.045	0.043	0.043	0.066	0.068	0.067	0.067
	(2.98)	(2.91)	(3.03)	(2.95)	(-0.63)	(-0.61)	(-0.63)	(-0.58)	(0.80)	(0.81)	(0.79)	(0.78)	(1.09)	(1.12)	(1.09)	(1.09)
Leverage Missing	0.191***	0.191***	0.190***	0.192***	-0.014	-0.014	-0.014	-0.013	0.053	0.053	0.054	0.052	0.044	0.045	0.045	0.043
	(3.00)	(2.99)	(2.96)	(3.01)	(-0.90)	(-0.88)	(-0.89)	(-0.86)	(1.18)	(1.16)	(1.19)	(1.14)	(0.96)	(0.98)	(0.96)	(0.94)
Ln(Exposure TL)	-0.217*	-0.215*	-0.219*	-0.215*	0.097***	0.097***	0.097***	0.097***	0.174***	0.174***	0.174***	0.174***	-0.544***	-0.543***	-0.544***	-0.543***
	(-1.91)	(-1.90)	(-1.93)	(-1.90)	(4.47)	(4.48)	(4.47)	(4.52)	(3.04)	(3.04)	(3.04)	(3.03)	(-5.78)	(-5.77)	(-5.77)	(-5.75)
Ln(Exposure RV)	-0.208*	-0.210*	-0.208*	-0.211*	-0.009	-0.009	-0.008	-0.009	-0.130**	-0.131**	-0.130**	-0.131**	-0.049	-0.050	-0.049	-0.050
	(-1.92)	(-1.94)	(-1.93)	(-1.95)	(-0.40)	(-0.39)	(-0.39)	(-0.40)	(-2.32)	(-2.33)	(-2.32)	(-2.32)	(-0.48)	(-0.50)	(-0.49)	(-0.49)
Ln(Unused Exp RV)	-0.270***	-0.262***	-0.273***	-0.266***	0.019**	0.019**	0.019**	0.018**	0.040	0.039	0.040	0.041	0.406***	0.405***	0.406***	0.407***
	(-9.18)	(-8.95)	(-9.33)	(-9.12)	(2.54)	(2.52)	(2.53)	(2.45)	(1.46)	(1.43)	(1.46)	(1.52)	(17.45)	(17.39)	(17.46)	(17.47)
Private	-0.295***	-0.287***	-0.296***	-0.290***	-0.024	-0.024	-0.024	-0.024	0.012	0.012	0.012	0.013	0.864***	0.864***	0.864***	0.865***
	(-4.80)	(-4.71)	(-4.81)	(-4.74)	(-1.55)	(-1.56)	(-1.55)	(-1.57)	(0.25)	(0.25)	(0.25)	(0.28)	(17.95)	(17.94)	(17.95)	(17.97)
Public Debt Rating	-0.218**	-0.225**	-0.204*	-0.216**	-0.028	-0.029	-0.029	-0.029	0.130	0.130	0.129	0.134	0.386***	0.384***	0.385***	0.389***
	(-2.05)	(-2.10)	(-1.93)	(-2.03)	(-1.13)	(-1.14)	(-1.14)	(-1.15)	(1.13)	(1.13)	(1.12)	(1.16)	(4.39)	(4.36)	(4.38)	(4.42)
Bank Controls																
Ln(Size)	0.436***	0.616***	0.316***	0.503***	0.017	0.014	0.016	0.013	0.032	0.034	0.033	0.031	0.053	0.048	0.054	0.052
	(4.69)	(6.50)	(3.40)	(5.38)	(0.70)	(0.61)	(0.67)	(0.55)	(0.48)	(0.51)	(0.50)	(0.48)	(0.69)	(0.63)	(0.70)	(0.67)
Capital Ratio	2.809	-1.898	4.284	-0.144	-0.490	-0.513	-0.498	-0.623	-0.432	-0.578	-0.417	-0.812	1.938	1.783	1.905	1.579
	(1.05)	(-0.68)	(1.61)	(-0.05)	(-0.87)	(-0.91)	(-0.88)	(-1.09)	(-0.21)	(-0.28)	(-0.20)	(-0.39)	(0.85)	(0.78)	(0.84)	(0.69)
NPL Ratio	-70.868***	-73.908***	-66.432***	-73.154***	0.492	0.612	0.519	0.365	19.232***	19.008**	19.204***	17.257**	-14.974	-14.565	-15.005	-16.535
	(-7.42)	(-7.56)	(-6.99)	(-7.51)	(0.20)	(0.25)	(0.21)	(0.15)	(2.60)	(2.57)	(2.60)	(2.33)	(-1.46)	(-1.43)	(-1.46)	(-1.62)
Liquidity Ratio	-1.804*	-0.648	-2.323**	-1.023	-0.467**	-0.460**	-0.465**	-0.419*	-2.264***	-2.201***	-2.253***	-2.062***	0.754	0.820	0.775	0.928
	(-1.88)	(-0.64)	(-2.42)	(-1.01)	(-2.12)	(-2.09)	(-2.11)	(-1.85)	(-3.51)	(-3.46)	(-3.49)	(-3.08)	(0.87)	(0.94)	(0.89)	(1.08)
ROA	-22.322	-75.452***	4.874	-43.655***	-1.709	-1.807	-1.698	-1.662	-6.468	-7.155	-6.771	-4.436	-39.962***	-40.572***	-40.206***	-38.410***
	(-1.44)	(-5.33)	(0.28)	(-3.02)	(-0.56)	(-0.59)	(-0.56)	(-0.54)	(-0.37)	(-0.40)	(-0.38)	(-0.25)	(-3.47)	(-3.55)	(-3.51)	(-3.34)
County Controls																
Unemployment Rate	0.001	0.003	-0.004	-0.001	0.007***	0.007***	0.007***	0.006***	0.014**	0.013**	0.014**	0.010*	-0.023***	-0.022***	-0.023***	-0.025***
	(0.18)	(0.84)	(-1.04)	(-0.26)	(2.88)	(2.95)	(2.88)	(2.85)	(2.46)	(2.40)	(2.46)	(1.85)	(-4.45)	(-4.39)	(-4.41)	(-4.71)
HPI	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	-0.002***	-0.002***	-0.002***	-0.002***
	(4.00)	(3.97)	(4.14)	(3.83)	(6.79)	(6.82)	(6.79)	(6.80)	(5.12)	(5.11)	(5.11)	(4.87)	(-5.79)	(-5.77)	(-5.80)	(-5.82)
Change in HPI	0.915	1.964*	0.454	1.214	0.682*	0.687*	0.685*	0.677*	0.381	0.399	0.376	0.133	-2.066*	-2.031*	-2.063*	-2.247*
	(0.88)	(1.92)	(0.43)	(1.15)	(1.82)	(1.84)	(1.82)	(1.81)	(0.40)	(0.42)	(0.39)	(0.14)	(-1.77)	(-1.75)	(-1.77)	(-1.91)
Population Density	-0.000	-0.000	-0.000	-0.000	-0.000***	-0.000***	-0.000***	-0.000***	-0.000**	-0.000***	-0.000**	-0.000***	0.000***	0.000***	0.000***	0.000***
	(-1.12)	(-1.05)	(-1.15)	(-1.09)	(-4.06)	(-4.20)	(-4.06)	(-4.07)	(-2.55)	(-2.83)	(-2.55)	(-2.65)	(3.07)	(3.26)	(3.07)	(3.03)
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	24,334	24,334	24,334	24,334	27,152	27,152	27,152	27,152	27,150	27,150	27,150	27,150	27,152	27,152	27,152	27,152
Adjusted R-squared	0.222	0.220	0.226	0.221	0.376	0.377	0.376	0.377	0.326	0.326	0.326	0.327	0.474	0.474	0.474	0.474

Panel B. Revolvers

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index
Rel Exist × COVID-19 Shock	0.007	0.005	0.005	0.002	0.004**	0.002*	0.005**	0.007***	-0.007*	-0.004	-0.008*	-0.010**	-0.011	-0.008**	-0.012	-0.020**
	(0.64)	(0.92)	(0.40)	(0.19)	(2.14)	(1.82)	(2.16)	(2.93)	(-1.70)	(-1.49)	(-1.92)	(-2.06)	(-1.40)	(-1.99)	(-1.34)	(-2.05)
Rel Exist	-0.086**	-0.085**	-0.083**	-0.088**	-0.066***	-0.063***	-0.066***	-0.068***	-0.116***	-0.120***	-0.114***	-0.113***	0.193***	0.189***	0.195***	0.204***
	(-2.29)	(-2.29)	(-2.17)	(-2.31)	(-6.44)	(-6.28)	(-6.44)	(-6.40)	(-7.60)	(-7.92)	(-7.43)	(-7.44)	(6.17)	(5.71)	(6.24)	(6.41)
COVID-19 Shock	-0.189**	-0.018***	-0.155	-0.139***	-0.003	-0.000	0.000	0.004	-0.011	0.001	-0.013	0.016***	0.038	0.006*	-0.033	0.048***
	(-2.55)	(-3.45)	(-1.00)	(-4.83)	(-0.27)	(-0.46)	(0.02)	(1.49)	(-0.62)	(0.78)	(-0.33)	(2.89)	(1.03)	(1.79)	(-0.60)	(4.51)
Loan Controls																
Rating: LIG	0.010	0.013	0.015	0.009	0.034	0.035	0.034	0.035	0.020	0.020	0.020	0.021	-0.528***	-0.528***	-0.529***	-0.526***
	(0.16)	(0.22)	(0.25)	(0.15)	(1.52)	(1.52)	(1.52)	(1.54)	(0.98)	(0.98)	(0.99)	(1.03)	(-3.35)	(-3.36)	(-3.36)	(-3.35)
Rating: HSG	0.474***	0.478***	0.479***	0.466***	0.136***	0.136***	0.136***	0.136***	-0.016	-0.016	-0.016	-0.015	-0.781***	-0.781***	-0.782***	-0.777***
	(4.43)	(4.42)	(4.45)	(4.44)	(4.77)	(4.78)	(4.77)	(4.78)	(-0.77)	(-0.76)	(-0.76)	(-0.69)	(-4.60)	(-4.61)	(-4.60)	(-4.60)
Rating: LSG	0.941***	0.948***	0.947***	0.936***	0.202***	0.203***	0.202***	0.203***	-0.152***	-0.153***	-0.152***	-0.151***	-0.822***	-0.824***	-0.823***	-0.818***
	(6.23)	(6.21)	(6.24)	(6.26)	(6.40)	(6.40)	(6.39)	(6.41)	(-5.09)	(-5.10)	(-5.08)	(-5.04)	(-4.69)	(-4.71)	(-4.70)	(-4.69)
Non-Syndicated	-0.074	-0.075	-0.076	-0.095	-0.059***	-0.059***	-0.059***	-0.058***	-0.808***	-0.808***	-0.808***	-0.807***	-2.490***	-2.490***	-2.490***	-2.487***
	(-0.56)	(-0.56)	(-0.57)	(-0.72)	(-2.77)	(-2.78)	(-2.76)	(-2.73)	(-14.25)	(-14.21)	(-14.26)	(-14.25)	(-17.18)	(-17.18)	(-17.20)	(-17.24)
Floating Rate	-0.893***	-0.895***	-0.891***	-0.900***	0.212***	0.212***	0.212***	0.212***	0.251***	0.252***	0.251***	0.251***	0.715***	0.715***	0.714***	0.714***
	(-2.98)	(-2.98)	(-2.97)	(-3.03)	(7.31)	(7.30)	(7.31)	(7.34)	(3.49)	(3.49)	(3.48)	(3.48)	(10.00)	(10.01)	(10.00)	(10.02)
Mixed Rate	-0.589*	-0.597*	-0.588*	-0.618**	0.141***	0.141***	0.141***	0.141***	0.323***	0.323***	0.323***	0.322***	0.580***	0.581***	0.580***	0.579***
	(-1.91)	(-1.93)	(-1.90)	(-2.04)	(4.81)	(4.80)	(4.82)	(4.82)	(4.32)	(4.32)	(4.31)	(4.31)	(8.98)	(8.99)	(8.99)	(9.00)
Purpose: Acq/Capex	0.348**	0.349**	0.344**	0.342**	-0.149***	-0.149***	-0.149***	-0.148***	0.274***	0.274***	0.274***	0.274***	0.089	0.089	0.090	0.089
	(2.48)	(2.47)	(2.46)	(2.44)	(-4.72)	(-4.73)	(-4.73)	(-4.73)	(4.72)	(4.72)	(4.71)	(4.71)	(0.94)	(0.94)	(0.94)	(0.93)
Purpose: General	0.702***	0.703***	0.700***	0.699***	-0.207***	-0.207***	-0.207***	-0.206***	0.029	0.030	0.029	0.029	0.081	0.081	0.081	0.080
	(8.08)	(8.09)	(8.08)	(8.10)	(-10.36)	(-10.38)	(-10.36)	(-10.38)	(0.95)	(0.96)	(0.94)	(0.94)	(1.39)	(1.40)	(1.39)	(1.38)
Purpose: CRE	0.513***	0.518***	0.515***	0.509***	-0.297***	-0.297***	-0.297***	-0.296***	0.195***	0.195***	0.195***	0.195***	0.124	0.123	0.124	0.124
	(3.70)	(3.74)	(3.72)	(3.72)	(-7.26)	(-7.26)	(-7.26)	(-7.26)	(4.02)	(4.02)	(4.02)	(4.03)	(1.25)	(1.24)	(1.25)	(1.26)
Multi-Facility has RV	0.010	0.008	0.011	0.005	0.010	0.010	0.010	0.010	0.270***	0.270***	0.270***	0.271***	-0.201***	-0.201***	-0.201***	-0.198***
	(0.26)	(0.19)	(0.27)	(0.13)	(0.86)	(0.88)	(0.87)	(0.88)	(8.69)	(8.68)	(8.69)	(8.75)	(-4.60)	(-4.57)	(-4.60)	(-4.54)
Multi-Facility has TL	0.075	0.073	0.074	0.086	0.056***	0.055***	0.056***	0.055***	0.268***	0.268***	0.268***	0.268***	0.002	0.002	0.002	0.000
	(1.00)	(0.99)	(1.00)	(1.15)	(4.41)	(4.40)	(4.41)	(4.38)	(9.66)	(9.68)	(9.67)	(9.64)	(0.04)	(0.05)	(0.04)	(0.00)
Firm Controls																
Size: [\$25mil, \$250mil]	-0.306***	-0.311***	-0.308***	-0.318***	-0.069***	-0.069***	-0.069***	-0.069***	0.238***	0.238***	0.238***	0.238***	0.910***	0.911***	0.910***	0.913***
	(-4.87)	(-4.97)	(-4.92)	(-5.11)	(-7.06)	(-7.05)	(-7.05)	(-7.07)	(11.92)	(11.93)	(11.92)	(11.96)	(23.85)	(23.87)	(23.78)	(23.86)
Size: ≥\$250mil	-0.134	-0.137	-0.135	-0.153	-0.315***	-0.315***	-0.315***	-0.315***	0.380***	0.379***	0.380***	0.381***	1.513***	1.513***	1.514***	1.517***
	(-1.15)	(-1.18)	(-1.16)	(-1.34)	(-14.62)	(-14.60)	(-14.62)	(-14.67)	(10.88)	(10.86)	(10.88)	(10.90)	(21.54)	(21.64)	(21.52)	(21.70)
Size: Missing	-0.332**	-0.340**	-0.332*	-0.368**	-0.166***	-0.166***	-0.166***	-0.166***	0.167***	0.167***	0.167***	0.169***	0.862***	0.862***	0.863***	0.870***
	(-1.97)	(-2.03)	(-1.96)	(-2.23)	(-6.62)	(-6.61)	(-6.62)	(-6.60)	(3.09)	(3.09)	(3.10)	(3.14)	(10.03)	(10.07)	(10.03)	(10.18)
Past Delinquency	-0.061	-0.061	-0.056	-0.045	-0.027	-0.027	-0.027	-0.027	-0.053	-0.053	-0.053	-0.054	0.289***	0.290***	0.289***	0.285***
	(-0.66)	(-0.65)	(-0.59)	(-0.47)	(-1.50)	(-1.51)	(-1.49)	(-1.53)	(-1.62)	(-1.59)	(-1.61)	(-1.64)	(3.37)	(3.38)	(3.35)	(3.32)
ROA	-0.176	-0.169	-0.171	-0.167	-0.035	-0.035	-0.035	-0.036	0.109***	0.108***	0.109***	0.108***	-0.126**	-0.127**	-0.126**	-0.126**
	(-1.46)	(-1.39)	(-1.42)	(-1.39)	(-1.22)	(-1.22)	(-1.22)	(-1.23)	(3.18)	(3.16)	(3.17)	(3.17)	(-2.52)	(-2.52)	(-2.50)	(-2.49)
ROA Missing	-0.282**	-0.286**	-0.287**	-0.270**	-0.020	-0.019	-0.020	-0.020	0.110**	0.109**	0.110**	0.109**	0.083	0.083	0.083	0.082
	(-2.06)	(-2.10)	(-2.10)	(-2.01)	(-0.80)	(-0.78)	(-0.79)	(-0.80)	(2.05)	(2.03)	(2.04)	(2.02)	(1.01)	(1.01)	(1.02)	(1.00)
Leverage Ratio	0.374***	0.373***	0.375***	0.375***	-0.000	-0.000	-0.000	-0.000	-0.073*	-0.072*	-0.072*	-0.073*	0.075	0.075	0.075	0.075
	(2.90)	(2.90)	(2.90)	(2.90)	(-0.01)	(-0.00)	(-0.01)	(-0.01)	(-1.74)	(-1.74)	(-1.73)	(-1.74)	(0.97)	(0.96)	(0.96)	(0.95)
Leverage Missing	0.525***	0.529***	0.528***	0.523***	-0.019	-0.019	-0.019	-0.018	-0.031	-0.031	-0.031	-0.031	-0.155***	-0.155***	-0.155***	-0.155***
	(4.08)	(4.12)	(4.10)	(4.06)	(-1.30)	(-1.29)	(-1.30)	(-1.28)	(-1.35)	(-1.36)	(-1.35)	(-1.36)	(-4.33)	(-4.34)	(-4.33)	(-4.33)
Ln(Exposure TL)	0.958***	0.958***	0.955***	0.946***	0.113***	0.113***	0.113***	0.112***	0.115***	0.115***	0.115***	0.116***	-0.306***	-0.305***	-0.306***	-0.305***
	(5.26)	(5.29)	(5.27)	(5.28)	(4.85)	(4.84)	(4.84)	(4.83)	(2.88)	(2.87)	(2.88)	(2.88)	(-3.24)	(-3.24)	(-3.24)	(-3.23)
Ln(Exposure RV)	0.182	0.182	0.187	0.176	-0.043	-0.042	-0.043	-0.043	0.080*	0.079*	0.080*	0.081*	0.261*	0.260*	0.261*	0.262*
	(0.87)	(0.87)	(0.89)	(0.83)	(-1.46)	(-1.44)	(-1.47)	(-1.48)	(1.69)	(1.67)	(1.69)	(1.70)	(1.70)	(1.69)	(1.70)	(1.72)
Ln(Unused Exp RV)	-0.306***	-0.311***	-0.308***	-0.318***	-0.069***	-0.069***	-0.069***	-0.069***	0.238***	0.238***	0.238***	0.238***	0.910***	0.911***	0.910***	0.913***
	(-4.87)	(-4.97)	(-4.92)	(-5.11)	(-7.06)	(-7.05)	(-7.05)	(-7.07)	(11.92)	(11.93)	(11.92)	(11.96)	(23.85)	(23.87)	(23.78)	(23.86)
Private	-0.134	-0.137	-0.135	-0.153	-0.315***	-0.315***	-0.315***	-0.315***	0.380***	0.379***	0.380***	0.381***	1.513***	1.513***	1.514***	1.517***
	(-1.15)	(-1.18)	(-1.16)	(-1.34)	(-14.62)	(-14.60)	(-14.62)	(-14.67)	(10.88)	(10.86)	(10.88)	(10.90)	(21.54)	(21.64)	(21.52)	(21.70)

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Public Debt Rating	-0.332**	-0.340**	-0.332*	-0.368**	-0.166***	-0.166***	-0.166***	-0.166***	0.167***	0.167***	0.167***	0.169***	0.862***	0.862***	0.863***	0.870***
	(-1.97)	(-2.03)	(-1.96)	(-2.23)	(-6.62)	(-6.61)	(-6.62)	(-6.60)	(3.09)	(3.09)	(3.10)	(3.14)	(10.03)	(10.07)	(10.03)	(10.18)
Bank Controls																
Ln(Size)	-0.594***	-0.614***	-0.586***	-0.505***	0.058**	0.062**	0.058**	0.052*	0.116**	0.111**	0.119**	0.114**	0.078	0.074	0.078	0.070
	(-3.27)	(-3.42)	(-3.25)	(-3.12)	(2.00)	(2.16)	(1.97)	(1.78)	(2.13)	(2.05)	(2.19)	(2.11)	(0.89)	(0.85)	(0.89)	(0.79)
Capital Ratio	-14.949**	-14.224**	-15.004**	-9.952*	0.410	0.470	0.402	0.124	-0.353	-0.470	-0.340	-0.718	6.989**	6.841**	7.037**	5.958**
	(-2.34)	(-2.27)	(-2.35)	(-1.86)	(0.50)	(0.57)	(0.49)	(0.15)	(-0.19)	(-0.25)	(-0.18)	(-0.38)	(2.51)	(2.42)	(2.53)	(2.03)
NPL Ratio	8.225	8.560	8.135	7.393	-6.503**	-6.607**	-6.489**	-6.626**	10.781*	10.931*	10.727	11.081*	-5.443	-5.234	-5.466	-4.762
	(0.39)	(0.42)	(0.39)	(0.39)	(-2.28)	(-2.30)	(-2.27)	(-2.30)	(1.66)	(1.67)	(1.65)	(1.68)	(-0.45)	(-0.43)	(-0.45)	(-0.39)
Liquidity Ratio	3.214**	2.859**	3.123**	1.717	-0.348	-0.359	-0.342	-0.272	-1.656***	-1.637***	-1.671***	-1.600***	2.341**	2.389**	2.332**	2.531**
	(2.27)	(2.08)	(2.21)	(1.34)	(-1.20)	(-1.24)	(-1.18)	(-0.92)	(-2.88)	(-2.85)	(-2.90)	(-2.78)	(2.20)	(2.27)	(2.19)	(2.40)
ROA	87.630**	80.935**	87.560**	65.508**	2.536	2.739	2.537	3.334	13.151	12.949	13.206	14.837	-43.982***	-43.486***	-44.024***	-38.593***
	(2.38)	(2.22)	(2.36)	(1.98)	(0.59)	(0.64)	(0.59)	(0.76)	(1.35)	(1.34)	(1.35)	(1.51)	(-3.08)	(-3.03)	(-3.09)	(-2.68)
County Controls																
Unemployment Rate	-0.015	-0.012	-0.014	0.005	0.008***	0.008***	0.008***	0.007***	-0.006**	-0.006**	-0.006**	-0.007**	-0.015**	-0.015**	-0.015**	-0.020***
	(-1.39)	(-1.18)	(-1.34)	(0.51)	(4.63)	(4.65)	(4.60)	(4.42)	(-2.10)	(-2.08)	(-2.05)	(-2.57)	(-2.21)	(-2.28)	(-2.22)	(-3.19)
HPI	0.001***	0.001***	0.001***	0.002***	0.001***	0.001***	0.001***	0.001***	-0.000*	-0.000*	-0.000*	-0.000*	-0.001***	-0.001***	-0.001***	-0.001***
	(3.95)	(3.95)	(3.90)	(4.48)	(6.71)	(6.76)	(6.73)	(6.74)	(-1.65)	(-1.66)	(-1.66)	(-1.75)	(-2.96)	(-2.95)	(-2.95)	(-3.09)
Change in HPI	-2.601*	-2.444	-2.534	-0.951	0.488	0.487	0.493	0.436	0.663	0.673	0.660	0.559	0.693	0.691	0.661	0.331
	(-1.66)	(-1.57)	(-1.62)	(-0.60)	(1.39)	(1.39)	(1.40)	(1.24)	(0.88)	(0.90)	(0.88)	(0.74)	(0.56)	(0.56)	(0.54)	(0.28)
Population Density	-0.000***	-0.000***	-0.000***	-0.000***	-0.000*	-0.000*	-0.000*	-0.000*	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
	(-3.16)	(-2.76)	(-3.18)	(-2.85)	(-1.77)	(-1.82)	(-1.77)	(-1.81)	(4.76)	(4.82)	(4.76)	(4.71)	(4.96)	(4.85)	(4.95)	(4.91)
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	13,807	13,807	13,807	13,807	26,183	26,183	26,183	26,183	26,180	26,180	26,180	26,180	26,183	26,183	26,183	26,183
Adjusted R-squared	0.285	0.286	0.285	0.291	0.441	0.441	0.441	0.442	0.289	0.289	0.289	0.289	0.550	0.550	0.550	0.551

Table 3. The Dynamic Effects of Loan Terms for Relationship Borrowers during the COVID-19 Shock

This table reports OLS regression estimates to analyze how COVID-19 affects the terms on newly issued loans to relationship borrowers across different months after the COVID-19 shock hit the U.S. Results are presented separately for term loans (Panel A) and revolvers (Panel B). In each panel, four loan contract terms are regressed on COVID-19 shock dummy variables for each of the months during the COVID-19 shock (March, April, May, and June 2020), a relationship existence dummy, the interaction of the relationship existence dummy with the COVID-19 shock dummy variables, a large set of explanatory variables, and bank and industry fixed effects. The loan contract terms are: *Interest Rate Spread*, loan spread over the rate of a constant maturity U.S. Treasury bond with similar maturity; *Collateral*, a dummy = 1 if the loan is collateralized; *Ln(Maturity)*, the natural log of one plus maturity, the number of years from date of origination to date of maturity; and *Ln(Loan Amount)*, the natural log of one plus loan amount, the size of the loan in $ million. There are four main COVID-19 shock variables: March 2020, April 2020, May 2020, and June 2020, which are binaries for each of the months during the COVID-19 shock in our sample period. *Rel Exist* is a dummy equal to 1 if the borrower had a prior loan with the bank over the past three years. The sample includes corporate loans reported in the Y-14Q by banks with total assets above $100 billion between April 1, 2018, and June 30, 2020. All variables are defined in Table 1. Standard errors are clustered at the bank $\times$ industry level. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% levels, respectively.

	Panel A. Term Loans				Panel B. Revolvers			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Dependent Variable	Interest Rate Spread	Collateral	Ln (Maturity)	Ln (Loan Amount)	Interest Rate Spread	Collateral	Ln (Maturity)	Ln (Loan Amount)
Rel Exist × COVID-19 Shock: March 2020	-0.093	-0.006	-0.089	0.017	-0.187	-0.009	-0.110**	-0.039
	(-0.96)	(-0.32)	(-1.14)	(0.26)	(-1.44)	(-0.42)	(-2.39)	(-0.58)
Rel Exist × COVID-19 Shock: April 2020	0.261***	0.028	0.058	0.033	0.041	0.013	-0.037	0.114*
	(3.35)	(1.37)	(1.11)	(0.46)	(0.28)	(0.74)	(-1.00)	(1.80)
Rel Exist × COVID-19 Shock: May 2020	0.197**	0.039*	-0.053	-0.149*	-0.014	0.070**	-0.014	-0.333*
	(2.09)	(1.86)	(-0.67)	(-1.90)	(-0.13)	(2.14)	(-0.26)	(-1.79)
Rel Exist × COVID-19 Shock: June 2020	0.152	-0.054**	-0.387***	-0.122*	-0.076	0.035	-0.101	-0.162**
	(1.46)	(-2.14)	(-4.67)	(-1.75)	(-0.51)	(1.37)	(-1.47)	(-2.29)
Rel Exist	-0.011	-0.059***	-0.222***	0.057**	-0.067*	-0.067***	-0.114***	0.197***
	(-0.39)	(-5.49)	(-9.51)	(2.16)	(-1.78)	(-6.38)	(-7.22)	(6.26)
COVID-19 Shock: March 2020	0.672***	-0.032**	0.012	0.065	0.779***	-0.018	0.020	0.204***
	(8.50)	(-2.34)	(0.21)	(1.39)	(6.53)	(-1.27)	(0.73)	(3.76)
COVID-19 Shock: April 2020	0.210***	-0.005	0.355***	0.127*	0.575***	0.002	0.170***	0.070
	(2.75)	(-0.28)	(4.66)	(1.88)	(4.20)	(0.09)	(4.04)	(0.95)
COVID-19 Shock: May 2020	0.316***	-0.065**	0.216**	0.309***	0.823***	-0.076**	0.159***	0.237*
	(2.93)	(-2.06)	(2.26)	(3.29)	(4.19)	(-2.55)	(2.76)	(1.66)
COVID-19 Shock: June 2020	0.378***	0.051**	0.424***	-0.105	0.742***	0.041*	0.097**	-0.019
	(4.44)	(2.10)	(5.43)	(-1.58)	(4.50)	(1.73)	(2.01)	(-0.26)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES
Observations	24,334	27,152	27,150	27,152	13,807	26,183	26,180	26,183
Adjusted R-squared	0.230	0.372	0.324	0.472	0.267	0.439	0.286	0.549

Table 4. Loan Terms for Relationship Borrowers during the COVID-19 Shock: Falsification Test

This table reports regression estimates to assess how COVID-19 affects the terms on newly issued loans extended to relationship borrowers using a falsification test in which we assume the COVID-19 shock occurred one year earlier than its actual timing. Results are presented separately for term loans (Panel A) and revolvers (Panel B). In each panel, four loan contract terms are regressed on one of our main COVID-19 shock variables, a relationship existence dummy, the interaction of the two, a large set of explanatory variables, and bank and industry fixed effects. The loan contract terms are: *Interest Rate Spread*, loan spread over the rate of a constant maturity U.S. Treasury bond with similar maturity; *Collateral*, a dummy = 1 if the loan is collateralized; *Ln(Maturity)*, the natural log of one plus maturity, the number of years from date of origination to date of maturity; and *Ln(Loan Amount)*, the natural log of one plus loan amount, the size of the loan in $ million. There are four main fake COVID-19 shock variables: *US New Cases/100K Pop* (U.S. newly confirmed COVID-19 cases per 100,000 people, seven-day moving average); *State New Cases/100K Pop* (state newly confirmed COVID-19 cases per 100,000 people, seven-day moving average); *US Restrict Index* (U.S. restrictions index, constructed as the state-population weighted average of 10 individual U.S. state restrictions for COVID-19.); and *State Restrict Index* (State restrictions index, which captures 10 mandated statewide restrictions with potential impact on economic activity: (1) Emergency Declaration; (2) Stay at Home; (3) Non-essential Business Close; (4) Other Business Close; (5) Restaurant Restrictions; (6) Bar Restrictions: (7) School Close; (8) Gathering Restrictions; (9) Travel Restrictions; and (10) Quarantine/Case Isolation orders. We add a 1 for each restriction that is present in a state.) Values of COVID-19 shock variables are assigned to same month and day but one year earlier than the actual shocks occurred. *Rel Exist* is a dummy equal to 1 if the borrower had a prior loan with the bank over the past three years. The fake sample includes corporate loans reported in the Y-14Q by banks with total assets above $100 billion between April 1, 2017, and June 30, 2019. All variables are defined in Table 1. Standard errors are clustered at the bank × industry level. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Term Loans

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index
Rel Exist × FAKE COVID-19 Shock	0.006	-0.001	0.011	0.005	-0.003**	0.001	-0.003	0.001	0.003	-0.001	0.004	0.003	0.002	0.001	-0.003	-0.008
	(0.86)	(-0.22)	(1.34)	(0.66)	(-2.12)	(0.44)	(-1.39)	(0.59)	(0.81)	(-0.26)	(0.69)	(0.41)	(0.34)	(0.35)	(-0.56)	(-1.27)
Rel Exist	0.012	0.019	0.006	0.014	-0.046***	-0.050***	-0.047***	-0.051***	-0.234***	-0.230***	-0.234***	-0.232***	0.059**	0.060**	0.064**	0.067**
	(0.39)	(0.64)	(0.21)	(0.47)	(-3.96)	(-4.33)	(-4.05)	(-4.34)	(-9.21)	(-9.10)	(-9.21)	(-9.28)	(2.13)	(2.20)	(2.29)	(2.41)
FAKE COVID-19 Shock	-0.020***	-0.002	-0.029***	-0.020***	0.001	0.000	0.000	0.000	-0.003	-0.001	-0.004	-0.003	-0.003	-0.004*	-0.001	-0.004
	(-3.82)	(-0.55)	(-4.81)	(-3.69)	(0.84)	(0.72)	(0.12)	(0.12)	(-1.09)	(-0.61)	(-1.21)	(-0.69)	(-1.08)	(-1.89)	(-0.25)	(-1.04)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	22,779	22,779	22,779	22,779	25,902	25,902	25,902	25,902	25,890	25,890	25,890	25,890	25,902	25,902	25,902	25,902
Adjusted R-squared	0.203	0.201	0.203	0.202	0.373	0.373	0.373	0.373	0.291	0.291	0.291	0.291	0.446	0.446	0.446	0.446

Panel B. Revolvers

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index
Rel Exist × FAKE COVID-19 Shock	0.011	0.009	0.013	0.019*	0.001	0.002*	0.003*	0.006***	0.001	0.000	0.001	0.001	-0.002	-0.003	-0.002	-0.007
	(1.25)	(1.32)	(1.04)	(1.74)	(0.76)	(1.92)	(1.67)	(2.94)	(0.28)	(0.17)	(0.30)	(0.29)	(-0.41)	(-0.64)	(-0.28)	(-0.83)
Rel Exist	-0.129***	-0.124***	-0.129***	-0.132***	-0.070***	-0.071***	-0.072***	-0.074***	-0.107***	-0.106***	-0.107***	-0.107***	0.234***	0.234***	0.234***	0.237***
	(-3.35)	(-3.38)	(-3.29)	(-3.46)	(-6.36)	(-6.27)	(-6.57)	(-6.45)	(-6.48)	(-6.61)	(-6.49)	(-6.66)	(8.07)	(7.76)	(8.01)	(7.89)
FAKE COVID-19 Shock	-0.017**	-0.012***	-0.026***	-0.024***	-0.002**	-0.001	-0.004***	-0.003**	-0.004	-0.001	-0.006**	-0.004	-0.003	-0.001	-0.003	-0.003
	(-2.43)	(-2.79)	(-2.61)	(-2.86)	(-2.35)	(-1.20)	(-2.73)	(-2.13)	(-1.75)	(-0.64)	(-2.13)	(-1.58)	(-0.84)	(-0.27)	(-0.71)	(-0.71)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	12,472	12,472	12,472	12,472	23,457	23,457	23,457	23,457	23,437	23,437	23,437	23,437	23,457	23,457	23,457	23,457
Adjusted R-squared	0.237	0.237	0.237	0.237	0.421	0.421	0.421	0.421	0.306	0.306	0.306	0.306	0.516	0.516	0.516	0.516

Table 5. Loan Terms for Relationship Borrowers during the COVID-19 Shock: Alternative Relationship Proxies

This table reports OLS regression estimates to assess how COVID-19 affects the terms on newly issued loans to relationship borrowers using alternative relationship proxies. Results are presented separately for relationship intensity (Panels A1-A2) and relationship length (Panel B1-B2). In each panel, four loan contract terms are regressed on one of our main COVID-19 shock variables, a relationship existence dummy, the interaction of the two, a large set of explanatory variables, and bank and industry fixed effects. The loan contract terms are: *Interest Rate Spread*, loan spread over the rate of a constant maturity U.S. Treasury bond with similar maturity; *Collateral*, a dummy = 1 if the loan is collateralized; *Ln(Maturity)*, the natural log of one plus maturity, the number of years from date of origination to date of maturity; and *Ln(Loan Amount)*, the natural log of one plus loan amount, the size of the loan in $ million. There are four main COVID-19 shock variables: *US New Cases/100K Pop* (U.S. newly confirmed COVID-19 cases per 100,000 people, seven-day moving average); *State New Cases/100K Pop* (state newly confirmed COVID-19 cases per 100,000 people, seven-day moving average); *US Restrict Index* (U.S. restrictions index, constructed as the state-population weighted average of 10 individual U.S. state restrictions for COVID-19.); and *State Restrict Index* (State restrictions index, which captures 10 mandated statewide restrictions with potential impact on economic activity: (1) Emergency Declaration; (2) Stay at Home; (3) Non-essential Business Close; (4) Other Business Close; (5) Restaurant Restrictions; (6) Bar Restrictions: (7) School Close; (8) Gathering Restrictions; (9) Travel Restrictions; and (10) Quarantine/Case Isolation orders. We add a 1 for each restriction that is present in a state.) *Rel Intens* is the ratio of the dollar value of loans the firm obtained from the lending bank to the total dollar value of loans provided to the firm over the past three years. *Rel Length* is the length in years since the first loan the firm obtained from the lender. The sample includes corporate loans reported in the Y-14Q by banks with total assets above $100 billion between April 1, 2018, and June 30, 2020. All variables are defined in Table 1. Standard errors are clustered at the bank × industry level. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A1. Relationship Intensity - Term Loans

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index
Rel Intens × COVID-19 Shock	0.020**	0.010*	0.020**	0.010	0.001	0.002	0.003	0.008***	-0.012**	-0.007*	-0.012*	-0.015**	-0.009	-0.001	-0.012*	-0.013*
	(2.47)	(1.69)	(2.08)	(1.11)	(0.55)	(1.64)	(1.12)	(3.12)	(-2.04)	(-1.68)	(-1.79)	(-2.03)	(-1.58)	(-0.38)	(-1.67)	(-1.79)
Rel Intens	0.053*	0.068**	0.050	0.067**	-0.064***	-0.065***	-0.065***	-0.070***	-0.226***	-0.232***	-0.226***	-0.225***	0.077***	0.068**	0.079***	0.079***
	(1.73)	(2.26)	(1.62)	(2.15)	(-5.75)	(-5.92)	(-5.84)	(-6.01)	(-9.47)	(-10.04)	(-9.44)	(-9.51)	(2.78)	(2.52)	(2.85)	(2.79)
COVID-19 Shock	0.036***	-0.004	0.065***	0.026***	0.004	-0.002	-0.009	-0.001	-0.001	0.006**	-0.032	0.037***	-0.023	-0.002	-0.027	0.028***
	(5.07)	(-1.22)	(7.30)	(3.51)	(0.42)	(-1.62)	(-0.56)	(-0.16)	(-0.04)	(2.47)	(-0.54)	(4.28)	(-0.85)	(-0.53)	(-0.53)	(2.90)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	24,334	24,334	24,334	24,334	27,152	27,152	27,152	27,152	27,150	27,150	27,150	27,150	27,152	27,152	27,152	27,152
Adjusted R-squared	0.223	0.220	0.226	0.221	0.376	0.377	0.377	0.377	0.325	0.325	0.325	0.326	0.474	0.474	0.474	0.474

Panel A2. Relationship Intensity - Revolvers

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index
Rel Intens × COVID-19 Shock	0.004	0.003	0.001	-0.005	0.003*	0.003**	0.004*	0.006***	-0.001	-0.001	-0.001	-0.001	-0.015**	-0.012***	-0.016**	-0.023***
	(0.34)	(0.57)	(0.05)	(-0.50)	(1.82)	(2.28)	(1.82)	(2.68)	(-0.21)	(-0.21)	(-0.18)	(-0.30)	(-2.56)	(-2.91)	(-2.42)	(-3.47)
Rel Intens	-0.091**	-0.092**	-0.087**	-0.090**	-0.065***	-0.063***	-0.065***	-0.067***	-0.125***	-0.126***	-0.126***	-0.125***	0.189***	0.183***	0.189***	0.197***
	(-2.32)	(-2.39)	(-2.18)	(-2.26)	(-5.92)	(-5.93)	(-5.87)	(-5.84)	(-7.87)	(-7.75)	(-7.82)	(-7.81)	(5.66)	(5.56)	(5.60)	(5.78)
COVID-19 Shock	-0.187**	-0.018***	-0.152	-0.137***	-0.002	-0.000	0.001	0.005*	-0.013	0.000	-0.015	0.013**	0.039	0.006**	-0.033	0.048***
	(-2.51)	(-3.29)	(-0.99)	(-4.75)	(-0.21)	(-0.53)	(0.09)	(1.68)	(-0.74)	(0.00)	(-0.39)	(2.31)	(1.13)	(2.17)	(-0.60)	(4.36)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	13,807	13,807	13,807	13,807	26,183	26,183	26,183	26,183	26,180	26,180	26,180	26,180	26,183	26,183	26,183	26,183
Adjusted R-squared	0.285	0.286	0.285	0.291	0.441	0.441	0.441	0.441	0.288	0.288	0.288	0.289	0.550	0.550	0.550	0.550

Panel B1. Relationship Length - Term Loans

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index
Rel Length × COVID-19 Shock	0.008**	0.008***	0.008	0.006	0.001	0.001	0.001	0.003**	-0.011***	-0.009***	-0.012***	-0.013***	0.006*	0.007**	0.009**	0.010**
	(2.03)	(2.84)	(1.58)	(1.26)	(1.03)	(1.45)	(0.74)	(2.12)	(-3.65)	(-3.45)	(-3.63)	(-3.76)	(1.65)	(2.54)	(2.21)	(2.45)
Rel Length	-0.010	-0.005	-0.012	-0.004	-0.024***	-0.024***	-0.024***	-0.026***	-0.123***	-0.126***	-0.121***	-0.121***	0.038***	0.037***	0.034**	0.035**
	(-0.49)	(-0.25)	(-0.57)	(-0.20)	(-4.81)	(-4.81)	(-4.73)	(-4.92)	(-8.24)	(-8.81)	(-8.15)	(-8.17)	(2.66)	(2.63)	(2.42)	(2.44)
COVID-19 Shock	0.037***	-0.006	0.067***	0.025***	0.003	-0.002	-0.007	0.000	0.004	0.009***	-0.020	0.042***	-0.033	-0.006	-0.042	0.017*
	(4.80)	(-1.47)	(7.06)	(3.27)	(0.36)	(-1.38)	(-0.46)	(0.10)	(0.16)	(4.41)	(-0.34)	(5.09)	(-1.20)	(-1.47)	(-0.83)	(1.74)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	24,334	24,334	24,334	24,334	27,152	27,152	27,152	27,152	27,150	27,150	27,150	27,150	27,152	27,152	27,152	27,152
Adjusted R-squared	0.222	0.219	0.225	0.220	0.374	0.374	0.374	0.374	0.325	0.325	0.325	0.325	0.474	0.474	0.474	0.474

Panel B2. Relationship Length – Revolvers

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index
Rel Length × COVID-19 Shock	0.008	0.000	0.008	-0.003	0.002**	0.001	0.003**	0.004***	-0.006***	-0.004***	-0.008***	-0.008***	-0.002	-0.000	-0.002	-0.004
	(1.36)	(0.08)	(1.24)	(-0.47)	(2.29)	(1.22)	(2.19)	(2.63)	(-2.83)	(-3.23)	(-3.28)	(-3.25)	(-0.38)	(-0.02)	(-0.38)	(-0.60)
Rel Length	-0.029	-0.018	-0.028	-0.021	-0.048***	-0.046***	-0.049***	-0.049***	-0.057***	-0.061***	-0.055***	-0.055***	0.124***	0.122***	0.125***	0.128***
	(-1.04)	(-0.62)	(-0.96)	(-0.70)	(-7.58)	(-7.45)	(-7.57)	(-7.43)	(-5.42)	(-5.93)	(-5.25)	(-5.35)	(6.21)	(5.82)	(6.19)	(6.37)
COVID-19 Shock	-0.191**	-0.017***	-0.158	-0.136***	-0.003	-0.000	0.000	0.004	-0.010	0.003*	-0.012	0.019***	0.036	0.003	-0.036	0.043***
	(-2.56)	(-3.33)	(-1.03)	(-4.81)	(-0.34)	(-0.35)	(0.00)	(1.40)	(-0.60)	(1.74)	(-0.31)	(3.41)	(0.98)	(0.88)	(-0.64)	(3.95)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	13,807	13,807	13,807	13,807	26,183	26,183	26,183	26,183	26,180	26,180	26,180	26,180	26,183	26,183	26,183	26,183
Adjusted R-squared	0.285	0.285	0.285	0.290	0.443	0.443	0.443	0.444	0.288	0.288	0.288	0.288	0.551	0.551	0.551	0.551

Table 6. Loan Terms for Relationship Borrowers during the COVID-19 Shock: Split by TL and RV Relationships

This table reports OLS regression estimates to assess how COVID-19 affects the terms on newly issued loans to relationship borrowers, where the relationship depends on the type of loan received in past (term loan/revolver). Results are presented separately for term loans (Panel A) and revolvers (Panel B). In each panel, four loan contract terms are regressed on one of our main COVID-19 shock variables, two relationship existence dummies, interaction terms, explanatory variables, and bank and industry fixed effects. The loan contract terms are: *Interest Rate Spread*, loan spread over the rate of a constant maturity U.S. Treasury bond with similar maturity; *Collateral*, a dummy = 1 if the loan is collateralized; *Ln(Maturity)*, the natural log of one plus maturity, the number of years from date of origination to date of maturity; and *Ln(Loan Amount)*, the natural log of one plus loan amount, the size of the loan in $ million. There are four main COVID-19 shock variables: *US New Cases/100K Pop* (U.S. newly confirmed COVID-19 cases per 100,000 people, seven-day moving average); *State New Cases/100K Pop* (state newly confirmed COVID-19 cases per 100,000 people, seven-day moving average); *US Restrict Index* (U.S. restrictions index, constructed as the state-population weighted average of 10 individual U.S. state restrictions for COVID-19.); and *State Restrict Index* (State restrictions index, which captures 10 mandated statewide restrictions with potential impact on economic activity: (1) Emergency Declaration; (2) Stay at Home; (3) Non-essential Business Close; (4) Other Business Close; (5) Restaurant Restrictions; (6) Bar Restrictions: (7) School Close; (8) Gathering Restrictions; (9) Travel Restrictions; and (10) Quarantine/Case Isolation orders. We add a 1 for each restriction that is present in a state.) The relationship existence dummies include *TL Rel Exist*, a dummy equal to 1 if the borrower has had a term loan relationship with the lender over the past three years, and *RV Rel Exist*, a dummy equal to 1 if the borrower has had a revolver relationship with the lender over the past three years. The sample includes corporate loans reported in the Y-14Q by banks with total assets above $100 billion between April 1, 2018, and June 30, 2020. All variables are defined in Table 1. Standard errors are clustered at the bank × industry level. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Term Loans Sample

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index
TL Rel Exist × COVID-19 Shock	-0.019	-0.001	-0.021	-0.018	0.000	0.000	-0.000	-0.001	-0.009	-0.011	-0.016*	-0.015	0.010	0.016*	0.009	0.008
	(-1.35)	(-0.12)	(-1.32)	(-1.23)	(0.09)	(0.11)	(-0.06)	(-0.41)	(-0.95)	(-1.22)	(-1.70)	(-1.52)	(0.93)	(1.81)	(0.76)	(0.75)
RV Rel Exist × COVID-19 Shock	0.029***	0.015**	0.030***	0.024***	0.002	0.004***	0.002	0.009***	-0.010**	-0.007*	-0.011*	-0.012*	-0.015**	-0.004	-0.014**	-0.019**
	(3.57)	(2.40)	(3.08)	(2.82)	(1.18)	(3.19)	(1.06)	(3.95)	(-2.01)	(-1.65)	(-1.90)	(-1.93)	(-2.48)	(-1.15)	(-2.09)	(-2.51)
COVID-19 Shock	0.034***	-0.005	0.064***	0.023***	0.003	-0.002*	-0.009	-0.000	-0.002	0.006***	-0.034	0.037***	-0.022	-0.002	-0.028	0.028***
	(4.82)	(-1.55)	(7.11)	(3.16)	(0.38)	(-2.16)	(-0.59)	(-0.14)	(-0.06)	(2.62)	(-0.58)	(4.28)	(-0.81)	(-0.51)	(-0.55)	(2.93)
TL Rel Exist	0.059	0.036	0.056	0.052	-0.026**	-0.026**	-0.026**	-0.024**	-0.087*	-0.086*	-0.078*	-0.082*	0.092**	0.090**	0.094**	0.094**
	(1.25)	(0.78)	(1.21)	(1.09)	(-2.17)	(-2.18)	(-2.10)	(-2.02)	(-1.86)	(-1.94)	(-1.70)	(-1.75)	(2.38)	(2.39)	(2.40)	(2.43)
RV Rel Exist	-0.042	-0.022	-0.044	-0.031	-0.059***	-0.061***	-0.059***	-0.065***	-0.238***	-0.242***	-0.238***	-0.237***	0.032	0.021	0.031	0.034
	(-1.33)	(-0.72)	(-1.37)	(-0.96)	(-4.67)	(-4.85)	(-4.68)	(-4.93)	(-9.72)	(-10.04)	(-9.64)	(-9.65)	(1.06)	(0.69)	(1.02)	(1.07)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	24,334	24,334	24,334	24,334	27,152	27,152	27,152	27,152	27,150	27,150	27,150	27,150	27,152	27,152	27,152	27,152
Adjusted R-squared	0.223	0.220	0.226	0.221	0.376	0.377	0.376	0.377	0.327	0.327	0.327	0.327	0.474	0.474	0.474	0.474

Panel B. Revolvers Sample

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index
TL Rel Exist × COVID-19 Shock	0.006	0.002	0.003	0.005	0.004	0.002*	0.005*	0.006**	0.000	0.000	-0.002	-0.004	-0.024***	-0.015***	-0.029***	-0.035***
	(0.53)	(0.42)	(0.24)	(0.43)	(1.65)	(1.69)	(1.81)	(2.13)	(0.11)	(0.00)	(-0.36)	(-0.75)	(-2.79)	(-3.44)	(-2.69)	(-3.13)
RV Rel Exist × COVID-19 Shock	0.030	0.006	0.028	0.007	0.004	0.003*	0.004	0.010***	-0.028***	-0.020***	-0.030***	-0.034***	0.013	0.001	0.018	0.009
	(1.50)	(0.41)	(1.25)	(0.30)	(1.52)	(1.76)	(1.19)	(2.83)	(-4.20)	(-3.73)	(-4.33)	(-4.09)	(1.42)	(0.21)	(1.57)	(0.73)
COVID-19 Shock	-0.195***	-0.018***	-0.157	-0.140***	-0.003	-0.000	-0.001	0.005	-0.009	0.002	-0.016	0.017***	0.041	0.007**	-0.027	0.048***
	(-2.65)	(-3.33)	(-1.02)	(-4.85)	(-0.32)	(-0.58)	(-0.05)	(1.64)	(-0.53)	(1.09)	(-0.42)	(2.86)	(1.11)	(2.09)	(-0.48)	(4.55)
TL Rel Exist	-0.028	-0.026	-0.024	-0.033	-0.062***	-0.060***	-0.063***	-0.064***	-0.136***	-0.135***	-0.134***	-0.131***	0.157***	0.141***	0.161***	0.165***
	(-0.71)	(-0.61)	(-0.62)	(-0.79)	(-5.70)	(-5.66)	(-5.71)	(-5.64)	(-8.13)	(-7.93)	(-7.98)	(-7.98)	(4.79)	(3.84)	(5.00)	(4.90)
RV Rel Exist	-0.284***	-0.256***	-0.281***	-0.256***	-0.051***	-0.050***	-0.051***	-0.057***	0.003	-0.012	0.003	0.002	0.103**	0.122***	0.098*	0.111**
	(-4.09)	(-3.97)	(-4.03)	(-3.84)	(-3.26)	(-3.09)	(-3.18)	(-3.52)	(0.11)	(-0.47)	(0.11)	(0.08)	(2.08)	(2.65)	(1.92)	(2.24)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	13,807	13,807	13,807	13,807	26,183	26,183	26,183	26,183	26,180	26,180	26,180	26,180	26,183	26,183	26,183	26,183
Adjusted R-squared	0.287	0.287	0.286	0.292	0.442	0.442	0.442	0.442	0.290	0.290	0.290	0.291	0.550	0.549	0.550	0.550

Table 7. Effects of COVID-19 on Loan Terms to Rel Exist Borrowers: Alternative COVID-19 Measures

This table reports OLS regression estimates to assess how COVID-19 affects the terms on newly issued loans to relationship borrowers using 10 alternative measures for the COVID-19 shock. Results are presented separately for term loans (Panels A1-D1) and revolvers (Panel A2-D2). In each panel, four loan contract terms are regressed on one of our alternative COVID-19 shock variables, a relationship existence dummy, the interaction of the two, a large set of explanatory variables, and bank and industry fixed effects. The loan contract terms are: *Interest Rate Spread*, loan spread over the rate of a constant maturity U.S. Treasury bond with similar maturity; *Collateral*, a dummy = 1 if the loan is collateralized; *Ln(Maturity)*, the natural log of one plus maturity, the number of years from date of origination to date of maturity; and *Ln(Loan Amount)*, the natural log of one plus loan amount, the size of the loan in $ million. The 10 alternative COVID-19 variables are: *US Health Crisis (≥ 100 cases)* (dummy equal to 1 from the date when the 100th COVID-19 case was identified in the U.S.); *State Health Crisis (≥ 100 cases)* (dummy equal 1 from the date when the 100th COVID-19 case was identified in the state); *US New Deaths/100K Pop* (U.S. newly confirmed COVID-19 deaths per 100,000 people, seven-day moving average); *State New Deaths/100K Pop* (state newly confirmed COVID-19 deaths per 100,000 people, seven-day moving average); *US Total Cases/100K Pop* (U.S. confirmed COVID-19 cases per 100,000 people, seven-day moving average.); *State Total Cases/100K Pop* (state confirmed COVID-19 cases per 100,000 people, seven-day moving average); *US Total Deaths/100K Pop* (U.S. confirmed COVID-19 deaths per 100,000 people, seven day moving average); *State Total Deaths/100K Pop* (state confirmed COVID-19 deaths per 100,000 people, seven-day moving average); *US Activity Restrict Crisis* (dummy equal to 1 from February 29, 2020, onward (when the first state restrictions due to COVID-19 are active in the U.S. in Washington State)); and *State GPS Immobility* (GPS immobility indexed to January 3-February 6 2020, showing time spent inside rather than outside of residential locations). *Rel Exist* is a dummy equal to 1 if the borrower had a prior loan with the bank over the past three years. The sample includes corporate loans reported in the Y-14Q by banks with total assets above $100 billion between April 1, 2018, and June 30, 2020. All variables are defined in Table 1. Standard errors are clustered at the bank × industry level. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A1. Interest Rate Spread: Term Loans

Dependent Variable	Interest Rate Spread									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
COVID-19 Variable	US Health Crisis (≥100 cases)	State Health Crisis (≥100 cases)	US New Deaths /100K Pop	State New Deaths /100K Pop	US Total Cases /100K Pop	State Total Cases /100K Pop	US Total Deaths /100K Pop	State Total Deaths /100K Pop	US Activity Restrict Crisis	State GPS Immobility
Rel Exist × COVID-19 Shock	0.133**	0.121**	0.555***	0.188**	0.000***	0.000**	0.008***	0.003**	0.136**	0.833***
	(2.31)	(2.20)	(4.63)	(2.35)	(3.34)	(2.25)	(3.40)	(2.39)	(2.40)	(2.65)
Rel Exist	-0.011	-0.007	-0.018	0.001	-0.011	-0.001	-0.011	0.002	-0.012	-0.010
	(-0.40)	(-0.25)	(-0.66)	(0.04)	(-0.40)	(-0.02)	(-0.41)	(0.07)	(-0.43)	(-0.34)
COVID-19 Shock	0.395	-0.620***	0.537	-0.181***	-0.000	-0.000***	-0.010	-0.003***	-0.086	-3.237***
	(1.54)	(-5.90)	(0.94)	(-4.98)	(-0.05)	(-3.12)	(-0.49)	(-2.74)	(-0.56)	(-5.94)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	24,334	24,334	24,334	24,334	24,334	24,334	24,334	24,334	24,334	24,334
Adjusted R-squared	0.240	0.243	0.241	0.240	0.240	0.240	0.240	0.240	0.240	0.243

Panel A2. Interest Rate Spread: Revolvers

Dependent Variable	Interest Rate Spread									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
COVID-19 Variable	US Health Crisis (≥100 cases)	State Health Crisis (≥100 cases)	US New Deaths /100K Pop	State New Deaths /100K Pop	US Total Cases /100K Pop	State Total Cases /100K Pop	US Total Deaths /100K Pop	State Total Deaths /100K Pop	US Activity Restrict Crisis	State GPS Immobility
Rel Exist × COVID-19 Shock	-0.017	0.017	0.101	0.059	0.000	0.000	0.001	0.001	-0.028	0.148
	(-0.22)	(0.23)	(0.53)	(0.84)	(0.40)	(0.47)	(0.33)	(0.57)	(-0.34)	(0.38)
Rel Exist	-0.073*	-0.087**	-0.084**	-0.081**	-0.082**	-0.083**	-0.081**	-0.082**	-0.071*	-0.087**
	(-1.94)	(-2.27)	(-2.25)	(-2.25)	(-2.23)	(-2.33)	(-2.21)	(-2.31)	(-1.85)	(-2.32)
COVID-19 Shock	0.057	-0.965***	-2.653**	-0.165***	-0.002	-0.000***	-0.023	-0.004***	0.248	-4.392***
	(0.15)	(-4.65)	(-2.15)	(-2.78)	(-1.03)	(-3.64)	(-0.54)	(-3.19)	(1.21)	(-4.42)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	13,807	13,807	13,807	13,807	13,807	13,807	13,807	13,807	13,807	13,807
Adjusted R-squared	0.285	0.291	0.285	0.285	0.285	0.286	0.285	0.286	0.285	0.289

Panel B1. Collateral: Term Loans

Dependent Variable	Collateral									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
COVID-19 Variable	US Health Crisis (≥100 cases)	State Health Crisis (≥100 cases)	US New Deaths /100K Pop	State New Deaths /100K Pop	US Total Cases /100K Pop	State Total Cases /100K Pop	US Total Deaths /100K Pop	State Total Deaths /100K Pop	US Activity Restrict Crisis	State GPS Immobility
Rel Exist × COVID-19 Shock	0.004	0.040**	0.052	0.033**	-0.000	0.000	-0.000	0.000	0.005	0.243***
	(0.34)	(2.49)	(1.61)	(2.02)	(-0.76)	(0.76)	(-0.63)	(0.53)	(0.37)	(2.75)
Rel Exist	-0.059***	-0.063***	-0.061***	-0.060***	-0.057***	-0.060***	-0.057***	-0.059***	-0.059***	-0.064***
	(-5.50)	(-5.75)	(-5.74)	(-5.79)	(-5.49)	(-5.71)	(-5.53)	(-5.72)	(-5.51)	(-5.79)
COVID-19 Shock	-0.063	-0.006	0.392***	-0.031**	0.000	-0.000*	0.003	-0.000*	0.090**	-0.204*
	(-1.46)	(-0.27)	(2.76)	(-2.32)	(0.42)	(-1.73)	(0.54)	(-1.90)	(2.56)	(-1.70)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	27,152	27,152	27,152	27,152	27,152	27,152	27,152	27,152	27,152	27,152
Adjusted R-squared	0.376	0.377	0.377	0.377	0.376	0.377	0.376	0.377	0.377	0.377

Panel B2. Collateral: Revolvers

Dependent Variable	Collateral									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
COVID-19 Variable	US Health Crisis (≥100 cases)	State Health Crisis (≥100 cases)	US New Deaths /100K Pop	State New Deaths /100K Pop	US Total Cases /100K Pop	State Total Cases /100K Pop	US Total Deaths /100K Pop	State Total Deaths /100K Pop	US Activity Restrict Crisis	State GPS Immobility
Rel Exist × COVID-19 Shock	0.029**	0.047***	0.066*	0.024	0.000**	0.000***	0.001**	0.001***	0.029**	0.226***
	(2.04)	(2.70)	(1.92)	(1.44)	(2.20)	(2.86)	(2.22)	(2.65)	(2.06)	(2.62)
Rel Exist	-0.066***	-0.068***	-0.065***	-0.062***	-0.065***	-0.064***	-0.066***	-0.063***	-0.066***	-0.067***
	(-6.46)	(-6.32)	(-6.39)	(-6.32)	(-6.48)	(-6.40)	(-6.47)	(-6.38)	(-6.45)	(-6.34)
COVID-19 Shock	-0.076*	0.021	-0.197	-0.015	-0.000	-0.000	-0.005	-0.000	0.003	0.054
	(-1.68)	(1.06)	(-1.43)	(-1.22)	(-0.45)	(-0.47)	(-0.84)	(-0.64)	(0.07)	(0.57)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	26,183	26,183	26,183	26,183	26,183	26,183	26,183	26,183	26,183	26,183
Adjusted R-squared	0.441	0.442	0.441	0.441	0.441	0.441	0.441	0.441	0.441	0.442

Panel C1. Ln(Maturity): Term Loans

Dependent Variable	Ln(Maturity)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	US Health Crisis	State Health Crisis	US New Deaths	State New Deaths	US Total Cases	State Total Cases	US Total Deaths	State Total Deaths	US Activity Restrict	State GPS
COVID-19 Variable	(≥100 cases)	(≥100 cases)	/100K Pop	/100K Pop	/100K Pop	/100K Pop	/100K Pop	/100K Pop	Crisis	Immobility
Rel Exist × COVID-19 Shock	-0.117***	-0.150***	-0.106	-0.065	-0.000***	-0.000**	-0.007***	-0.003*	-0.115***	-0.475**
	(-2.75)	(-3.20)	(-1.18)	(-1.22)	(-3.95)	(-2.12)	(-3.92)	(-1.79)	(-2.74)	(-2.03)
Rel Exist	-0.219***	-0.219***	-0.233***	-0.235***	-0.218***	-0.227***	-0.218***	-0.231***	-0.219***	-0.228***
	(-9.48)	(-9.56)	(-10.07)	(-10.61)	(-9.77)	(-10.31)	(-9.77)	(-10.50)	(-9.44)	(-9.98)
COVID-19 Shock	-0.119	0.258***	0.194	0.067	-0.000	0.000	-0.002	0.000	0.057	0.773**
	(-0.63)	(4.30)	(0.49)	(1.62)	(-0.45)	(0.40)	(-0.11)	(0.21)	(0.49)	(2.00)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	27,150	27,150	27,150	27,150	27,150	27,150	27,150	27,150	27,150	27,150
Adjusted R-squared	0.326	0.327	0.326	0.326	0.327	0.326	0.327	0.326	0.326	0.326

Panel C2. Ln(Maturity): Revolvers

Dependent Variable	Ln(Maturity)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	US Health Crisis	State Health Crisis	US New Deaths	State New Deaths	US Total Cases	State Total Cases	US Total Deaths	State Total Deaths	US Activity Restrict	State GPS
COVID-19 Variable	(≥100 cases)	(≥100 cases)	/100K Pop	/100K Pop	/100K Pop	/100K Pop	/100K Pop	/100K Pop	Crisis	Immobility
Rel Exist × COVID-19 Shock	-0.054*	-0.074**	-0.087	-0.056*	-0.000	-0.000	-0.002	-0.001	-0.061**	-0.358**
	(-1.91)	(-2.22)	(-1.31)	(-1.88)	(-1.59)	(-1.46)	(-1.56)	(-1.32)	(-2.14)	(-2.06)
Rel Exist	-0.114***	-0.112***	-0.119***	-0.121***	-0.116***	-0.120***	-0.116***	-0.122***	-0.112***	-0.114***
	(-7.45)	(-7.39)	(-7.65)	(-8.05)	(-7.73)	(-8.13)	(-7.76)	(-8.20)	(-7.32)	(-7.52)
COVID-19 Shock	0.155	0.130***	-0.043	0.007	-0.001	0.000*	-0.007	0.001*	-0.094	0.400**
	(1.48)	(3.41)	(-0.17)	(0.41)	(-1.36)	(1.73)	(-0.83)	(1.93)	(-0.88)	(2.14)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	26,180	26,180	26,180	26,180	26,180	26,180	26,180	26,180	26,180	26,180
Adjusted R-squared	0.289	0.289	0.289	0.289	0.289	0.289	0.289	0.289	0.289	0.289

Panel D1. Ln(Loan Amount): Term Loans

Dependent Variable	Ln(Loan Amount)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	US Health Crisis	State Health Crisis	US New Deaths	State New Deaths	US Total Cases	State Total Cases	US Total Deaths	State Total Deaths	US Activity Restrict	State GPS
COVID-19 Variable	(≥100 cases)	(≥100 cases)	/100K Pop	/100K Pop	/100K Pop	/100K Pop	/100K Pop	/100K Pop	Crisis	Immobility
Rel Exist × COVID-19 Shock	-0.042	-0.050	-0.143	-0.038	-0.000**	-0.000	-0.004**	-0.001	-0.043	-0.172
	(-0.99)	(-0.99)	(-1.41)	(-0.72)	(-2.31)	(-0.88)	(-2.47)	(-0.84)	(-1.02)	(-0.62)
Rel Exist	0.056**	0.057**	0.057**	0.051**	0.060**	0.053**	0.061**	0.052**	0.057**	0.054**
	(2.14)	(2.07)	(2.16)	(2.01)	(2.32)	(2.02)	(2.35)	(2.02)	(2.15)	(1.99)
COVID-19 Shock	-0.022	0.212***	-0.150	-0.061	-0.001	-0.000	-0.005	-0.001	0.023	0.869**
	(-0.10)	(3.24)	(-0.24)	(-1.08)	(-0.79)	(-0.56)	(-0.22)	(-0.81)	(0.17)	(2.04)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	27,152	27,152	27,152	27,152	27,152	27,152	27,152	27,152	27,152	27,152
Adjusted R-squared	0.474	0.474	0.474	0.474	0.474	0.474	0.474	0.474	0.474	0.474

Panel D2. Ln(Loan Amount): Revolvers

Dependent Variable	Ln(Loan Amount)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	US Health Crisis	State Health Crisis	US New Deaths	State New Deaths	US Total Cases	State Total Cases	US Total Deaths	State Total Deaths	US Activity Restrict	State GPS
COVID-19 Variable	(≥100 cases)	(≥100 cases)	/100K Pop	/100K Pop	/100K Pop	/100K Pop	/100K Pop	/100K Pop	Crisis	Immobility
Rel Exist × COVID-19 Shock	-0.089	-0.145**	-0.210	-0.091	-0.000***	-0.000**	-0.007***	-0.002**	-0.098*	-0.543
	(-1.55)	(-2.18)	(-1.27)	(-1.48)	(-2.59)	(-2.55)	(-2.61)	(-2.12)	(-1.75)	(-1.60)
Rel Exist	0.197***	0.205***	0.193***	0.184***	0.203***	0.192***	0.204***	0.187***	0.199***	0.195***
	(6.26)	(6.42)	(6.16)	(5.54)	(6.65)	(5.91)	(6.73)	(5.72)	(6.43)	(6.06)
COVID-19 Shock	0.086	0.339***	0.973**	0.071	-0.001	0.000**	-0.013	0.002**	-0.078	1.410***
	(0.55)	(4.64)	(1.99)	(1.56)	(-0.82)	(2.49)	(-0.58)	(2.20)	(-0.40)	(3.35)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	26,183	26,183	26,183	26,183	26,183	26,183	26,183	26,183	26,183	26,183
Adjusted R-squared	0.550	0.551	0.550	0.550	0.550	0.550	0.550	0.550	0.550	0.550

Table 8. Loan Terms for Relationship Borrowers during the COVID-19 Shock: Firm and Bank Size

This table reports OLS regression estimates to assess how COVID-19 affects the terms on newly issued loans to relationship borrowers using cross-sectional tests by firm and bank size: *Smaller Firm* (< $25 million) and *Smaller Bank* (non-top 4 banks in terms of total assets). Results are presented separately for term loans (Panels A1-B1) and revolvers (Panels A2-B2). In each panel, four loan contract terms are regressed on one of our main COVID-19 shock variables, a relationship existence dummy, the interaction of the two, a large set of explanatory variables, and bank and industry fixed effects. The loan contract terms are: *Interest Rate Spread*, loan spread over the rate of a constant maturity U.S. Treasury bond with similar maturity; *Collateral*, a dummy = 1 if the loan is collateralized; *Ln(Maturity)*, the natural log of one plus maturity, the number of years from date of origination to date of maturity; and *Ln(Loan Amount)*, the natural log of one plus loan amount, the size of the loan in $ million. There are four main COVID-19 shock variables: *US New Cases/100K Pop* (U.S. newly confirmed COVID-19 cases per 100,000 people, seven-day moving average); *State New Cases/100K Pop* (state newly confirmed COVID-19 cases per 100,000 people, seven-day moving average); *US Restrict Index* (U.S. restrictions index, constructed as the state-population weighted average of 10 individual U.S. state restrictions for COVID-19.); and *State Restrict Index* (State restrictions index, which captures 10 mandated statewide restrictions with potential impact on economic activity: (1) Emergency Declaration; (2) Stay at Home; (3) Non-essential Business Close; (4) Other Business Close; (5) Restaurant Restrictions; (6) Bar Restrictions: (7) School Close; (8) Gathering Restrictions; (9) Travel Restrictions; and (10) Quarantine/Case Isolation orders. We add a 1 for each restriction that is present in a state.) *Rel Exist* is a dummy equal to 1 if the borrower had a prior loan with the bank over the past three years. The sample includes corporate loans reported in the Y-14Q by banks with total assets above $100 billion between April 1, 2018 and June 30, 2020. All variables are defined in Table 1. Standard errors are clustered at the bank × industry level. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A1. Effects for Smaller Firms (<$25 Million in Assets) Using Term Loans

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index
Rel Exist × COVID-19 Shock × Smaller Firm	-0.043***	-0.028***	-0.040**	-0.032**	0.004	-0.001	0.005	-0.001	0.007	0.008	0.007	0.015	0.006	0.001	0.004	0.008
	(-3.12)	(-3.39)	(-2.50)	(-2.10)	(1.42)	(-0.42)	(1.61)	(-0.19)	(0.55)	(1.04)	(0.50)	(1.00)	(0.67)	(0.19)	(0.39)	(0.78)
Rel Exist × COVID-19 Shock	0.029***	0.018***	0.027***	0.023**	-0.000	0.002	0.000	0.006**	-0.012**	-0.009**	-0.014**	-0.019**	-0.007	0.001	-0.006	-0.009
	(3.68)	(3.14)	(2.79)	(2.48)	(-0.14)	(1.48)	(0.03)	(2.09)	(-2.09)	(-2.09)	(-1.99)	(-2.55)	(-1.04)	(0.16)	(-0.79)	(-1.08)
Smaller Firm × COVID-19 Shock	-0.009	0.003	-0.014	-0.004	-0.004**	0.001	-0.004*	-0.002	0.022***	0.005	0.028***	0.020***	0.023***	0.010*	0.026***	0.019**
	(-0.90)	(0.48)	(-1.29)	(-0.36)	(-2.02)	(0.75)	(-1.76)	(-0.81)	(3.11)	(1.13)	(3.56)	(2.61)	(2.98)	(1.89)	(2.92)	(2.18)
Rel Exist × Smaller Firm	0.017	-0.007	0.017	-0.001	0.055***	0.061***	0.054***	0.060***	0.024	0.021	0.025	0.020	-0.035	-0.032	-0.033	-0.035
	(0.35)	(-0.15)	(0.36)	(-0.02)	(3.77)	(4.18)	(3.57)	(3.85)	(0.50)	(0.46)	(0.51)	(0.42)	(-0.96)	(-0.90)	(-0.89)	(-0.96)
Rel Exist	-0.013	0.005	-0.014	0.001	-0.067***	-0.069***	-0.067***	-0.072***	-0.230***	-0.234***	-0.228***	-0.225***	0.054*	0.046	0.053*	0.056*
	(-0.40)	(0.15)	(-0.42)	(0.02)	(-5.55)	(-5.82)	(-5.58)	(-5.79)	(-9.42)	(-9.86)	(-9.30)	(-9.27)	(1.81)	(1.57)	(1.77)	(1.80)
COVID-19 Shock	0.033***	-0.007	0.065***	0.022**	0.006	-0.002	-0.009	0.000	-0.004	0.006*	-0.041	0.035***	-0.035	-0.005	-0.043	0.023**
	(4.14)	(-1.62)	(6.29)	(2.67)	(0.65)	(-1.55)	(-0.53)	(0.07)	(-0.17)	(1.92)	(-0.69)	(3.74)	(-1.29)	(-1.00)	(-0.83)	(2.16)
Smaller Firm	0.299***	0.279***	0.306***	0.290***	-0.026**	-0.032***	-0.026***	-0.028***	-0.070**	-0.050*	-0.077***	-0.071**	-0.536***	-0.519***	-0.538***	-0.532***
	(7.94)	(7.58)	(8.14)	(7.73)	(-2.57)	(-3.19)	(-2.60)	(-2.74)	(-2.42)	(-1.74)	(-2.61)	(-2.42)	(-19.39)	(-19.13)	(-19.30)	(-19.10)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	24,334	24,334	24,334	24,334	27,152	27,152	27,152	27,152	27,150	27,150	27,150	27,150	27,152	27,152	27,152	27,152
Adjusted R-squared	0.223	0.220	0.226	0.221	0.376	0.376	0.376	0.377	0.327	0.326	0.327	0.327	0.467	0.467	0.467	0.467

Panel A2. Effects for Smaller Firms (<$25 Million in Assets) Using Revolvers

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index	US New Cases/100K Pop	State New Cases/100K Pop	US Restrict Index	State Restrict Index
Rel Exist × COVID-19 Shock × Smaller Firm	-0.017	-0.018*	-0.020	-0.033	-0.007**	-0.003*	-0.007**	-0.009**	0.008	0.006	0.010	0.016**	-0.003	0.008	-0.003	0.011
	(-0.87)	(-1.81)	(-0.87)	(-1.65)	(-2.19)	(-1.83)	(-2.01)	(-2.41)	(1.16)	(1.07)	(1.34)	(2.01)	(-0.33)	(1.19)	(-0.29)	(0.91)
Rel Exist × COVID-19 Shock	0.008	0.010	0.006	0.009	0.005**	0.002	0.005*	0.008**	-0.007	-0.004	-0.008	-0.011*	-0.009	-0.011**	-0.011	-0.023*
	(0.58)	(1.43)	(0.37)	(0.71)	(2.00)	(1.59)	(1.94)	(2.57)	(-1.34)	(-1.21)	(-1.54)	(-1.82)	(-0.97)	(-2.00)	(-0.93)	(-1.84)
Smaller Firm × COVID-19 Shock	-0.023*	0.008	-0.023	0.014	0.003	0.001	0.003	0.002	0.017***	0.006**	0.018***	0.014***	0.000	-0.010*	-0.001	-0.016*
	(-1.66)	(1.15)	(-1.34)	(1.09)	(1.44)	(0.91)	(1.37)	(1.02)	(3.78)	(2.38)	(3.68)	(2.96)	(0.02)	(-1.90)	(-0.16)	(-1.89)
Rel Exist × Smaller Firm	0.184**	0.190***	0.190**	0.214***	0.060***	0.054***	0.059***	0.059***	-0.063**	-0.060**	-0.064**	-0.071**	0.080*	0.061	0.079**	0.062
	(2.26)	(2.60)	(2.29)	(2.64)	(4.25)	(4.04)	(4.21)	(4.13)	(-2.10)	(-2.08)	(-2.12)	(-2.34)	(1.75)	(1.32)	(1.76)	(1.35)
Rel Exist	-0.125**	-0.125***	-0.122***	-0.131***	-0.074***	-0.071***	-0.075***	-0.077***	-0.105***	-0.110***	-0.103***	-0.101***	0.169***	0.169***	0.170***	0.183***
	(-2.93)	(-3.03)	(-2.83)	(-3.13)	(-6.03)	(-5.92)	(-6.00)	(-5.96)	(-6.33)	(-6.66)	(-6.16)	(-6.12)	(4.41)	(4.16)	(4.45)	(4.74)
COVID-19 Shock	-0.188**	-0.021***	-0.143	-0.143***	-0.002	-0.001	0.000	0.004	-0.014	-0.001	-0.020	0.012**	0.035	0.009**	-0.033	0.052***
	(-2.57)	(-3.10)	(-0.93)	(-4.85)	(-0.20)	(-0.67)	(0.03)	(1.22)	(-0.82)	(-0.46)	(-0.51)	(2.01)	(0.93)	(2.26)	(-0.61)	(4.41)
Smaller Firm	0.226***	0.183***	0.226***	0.182***	0.103***	0.106***	0.103***	0.105***	-0.276***	-0.259***	-0.277***	-0.272***	-1.094***	-1.077***	-1.092***	-1.073***
	(3.32)	(2.61)	(3.33)	(2.62)	(7.57)	(7.92)	(7.59)	(7.80)	(-12.02)	(-11.75)	(-11.93)	(-11.78)	(-21.93)	(-21.90)	(-21.81)	(-20.90)
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	13,807	13,807	13,807	13,807	26,183	26,183	26,183	26,183	26,180	26,180	26,180	26,180	26,183	26,183	26,183	26,183
Adjusted R-squared	0.286	0.286	0.285	0.290	0.427	0.427	0.427	0.428	0.288	0.288	0.288	0.289	0.544	0.544	0.544	0.544

Panel B1. Effects for Smaller (Non-Top 4) Banks Using Term Loans

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index
Rel Exist × COVID-19 Shock × Smaller Bank	-0.039***	-0.005	-0.045***	-0.036**	0.007*	-0.001	0.007	-0.005	-0.002	-0.006	-0.005	-0.001	0.017	0.003	0.020	0.022
	(-2.84)	(-0.49)	(-2.61)	(-2.26)	(1.80)	(-0.55)	(1.62)	(-0.91)	(-0.23)	(-0.79)	(-0.46)	(-0.10)	(1.40)	(0.43)	(1.40)	(1.42)
Rel Exist × COVID-19 Shock	0.053***	0.017**	0.056***	0.048***	-0.004	0.003	-0.004	0.008*	-0.012*	-0.004	-0.012	-0.017*	-0.018*	-0.001	-0.018	-0.021
	(5.01)	(2.50)	(3.97)	(3.91)	(-1.23)	(1.32)	(-1.02)	(1.76)	(-1.72)	(-0.91)	(-1.40)	(-1.76)	(-1.73)	(-0.15)	(-1.60)	(-1.64)
Smaller Bank × COVID-19 Shock	-0.001	0.016***	-0.008	0.025*	0.001	0.004**	0.002	0.004	0.010	0.005	0.015	0.004	0.004	0.013*	0.003	0.004
	(-0.06)	(2.76)	(-0.55)	(1.90)	(0.19)	(2.34)	(0.64)	(1.02)	(1.36)	(1.05)	(1.64)	(0.40)	(0.39)	(1.77)	(0.26)	(0.31)
Rel Exist × Smaller Bank	-0.225***	-0.259***	-0.216***	-0.242***	0.052**	0.060**	0.052**	0.061**	-0.082*	-0.079*	-0.080*	-0.080*	-0.247***	-0.234***	-0.249***	-0.246***
	(-3.94)	(-4.59)	(-3.74)	(-4.19)	(2.07)	(2.42)	(2.08)	(2.40)	(-1.84)	(-1.78)	(-1.78)	(-1.79)	(-4.27)	(-4.25)	(-4.31)	(-4.29)
Rel Exist	0.116**	0.155***	0.109**	0.137***	-0.090***	-0.096***	-0.090***	-0.099***	-0.176***	-0.184***	-0.176***	-0.174***	0.203***	0.188***	0.204***	0.201***
	(2.36)	(3.20)	(2.19)	(2.73)	(-3.87)	(-4.20)	(-3.90)	(-4.22)	(-5.12)	(-5.43)	(-5.15)	(-5.08)	(4.05)	(3.89)	(4.10)	(4.03)
COVID-19 Shock	0.038***	-0.014***	0.072***	0.010	0.004	-0.004**	-0.010	-0.002	-0.006	0.004	-0.046	0.037***	-0.028	-0.009	-0.034	0.025*
	(3.04)	(-3.25)	(4.68)	(0.80)	(0.51)	(-2.45)	(-0.62)	(-0.58)	(-0.23)	(1.07)	(-0.77)	(3.96)	(-1.02)	(-1.54)	(-0.67)	(1.85)
Smaller Bank	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	24,334	24,334	24,334	24,334	27,152	27,152	27,152	27,152	27,150	27,150	27,150	27,150	27,152	27,152	27,152	27,152
Adjusted R-squared	0.224	0.220	0.228	0.222	0.378	0.378	0.378	0.378	0.327	0.326	0.327	0.327	0.475	0.475	0.475	0.475

Panel B2. Effects for Smaller (Non-Top 4) Banks Using Revolvers

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index
Rel Exist × COVID-19 Shock × Smaller Bank	-0.059**	-0.015	-0.050*	-0.039	-0.003	0.000	-0.004	-0.009	0.016*	0.016***	0.018**	0.030***	0.005	-0.007	-0.001	0.012
	(-2.45)	(-1.16)	(-1.89)	(-1.62)	(-0.59)	(0.11)	(-0.74)	(-1.54)	(1.94)	(2.99)	(2.03)	(2.79)	(0.23)	(-0.65)	(-0.04)	(0.29)
Rel Exist × COVID-19 Shock	0.053**	0.017	0.044*	0.032	0.006	0.002	0.007	0.014**	-0.019**	-0.015***	-0.022***	-0.032***	-0.014	-0.002	-0.012	-0.025
	(2.43)	(1.54)	(1.89)	(1.50)	(1.45)	(0.74)	(1.64)	(2.45)	(-2.54)	(-3.13)	(-2.72)	(-3.21)	(-0.61)	(-0.25)	(-0.41)	(-0.64)
Smaller Bank × COVID-19 Shock	-0.059***	-0.008	-0.082***	-0.022	0.001	0.000	0.001	-0.002	0.013**	0.001	0.016**	0.009	0.007	-0.001	0.015	-0.003
	(-2.74)	(-1.04)	(-3.14)	(-1.18)	(0.47)	(0.03)	(0.27)	(-0.56)	(2.34)	(0.35)	(2.40)	(1.41)	(0.59)	(-0.10)	(1.16)	(-0.25)
Rel Exist × Smaller Bank	0.095	0.026	0.091	0.061	0.090***	0.086***	0.091***	0.093***	-0.106***	-0.099***	-0.108***	-0.110***	-0.213***	-0.195***	-0.205***	-0.214***
	(1.06)	(0.30)	(1.00)	(0.68)	(4.71)	(4.25)	(4.77)	(4.58)	(-2.89)	(-2.81)	(-2.93)	(-3.05)	(-3.26)	(-2.67)	(-3.16)	(-3.22)
Rel Exist	-0.160**	-0.100	-0.156**	-0.127	-0.125***	-0.119***	-0.127***	-0.129***	-0.045	-0.057**	-0.041	-0.041	0.332***	0.315***	0.329***	0.340***
	(-2.12)	(-1.37)	(-2.02)	(-1.69)	(-7.26)	(-6.31)	(-7.37)	(-7.02)	(-1.51)	(-2.12)	(-1.38)	(-1.41)	(6.00)	(4.85)	(5.99)	(5.99)
COVID-19 Shock	-0.162**	-0.013*	-0.111	-0.128***	-0.004	-0.000	-0.001	0.005	-0.020	0.000	-0.022	0.012*	0.032	0.006	-0.041	0.050***
	(-2.42)	(-1.77)	(-0.73)	(-3.92)	(-0.37)	(-0.30)	(-0.08)	(1.38)	(-1.16)	(0.22)	(-0.56)	(1.77)	(0.85)	(1.06)	(-0.76)	(3.50)
Smaller Bank	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	13,807	13,807	13,807	13,807	26,183	26,183	26,183	26,183	26,180	26,180	26,180	26,180	26,183	26,183	26,183	26,183
Adjusted R-squared	0.288	0.285	0.288	0.290	0.443	0.443	0.443	0.444	0.290	0.290	0.290	0.290	0.551	0.551	0.551	0.551

Table 9. Effects of the Paycheck Protection Program (PPP)

This table reports OLS regression estimates to assess how COVID-19 affects the terms on newly issued loans to relationship borrowers differently at *High PPP Bank* (banks with PPP lending to total loans greater than the median). PPP loan information comes from the Y9-C reports. Results are presented separately for term loans (Panel A) and revolvers (Panel B). In each panel, four loan contract terms are regressed on one of our main COVID-19 shock variables, a relationship existence dummy, the interaction of the two, a large set of explanatory variables, and bank and industry fixed effects. The loan contract terms are: *Interest Rate Spread*, loan spread over the rate of a constant maturity U.S. Treasury bond with similar maturity; *Collateral*, a dummy = 1 if the loan is collateralized; *Ln(Maturity)*, the natural log of one plus maturity, the number of years from date of origination to date of maturity; and *Ln(Loan Amount)*, the natural log of one plus loan amount, the size of the loan in $ million. There are four main COVID-19 shock variables: *US New Cases/100K Pop* (U.S. newly confirmed COVID-19 cases per 100,000 people, seven-day moving average); *State New Cases/100K Pop* (state newly confirmed COVID-19 cases per 100,000 people, seven-day moving average); *US Restrict Index* (U.S. restrictions index, constructed as the state-population weighted average of 10 individual U.S. state restrictions for COVID-19); and *State Restrict Index* (State restrictions index, which captures 10 mandated statewide restrictions with potential impact on economic activity: (1) Emergency Declaration; (2) Stay at Home; (3) Non-essential Business Close; (4) Other Business Close; (5) Restaurant Restrictions; (6) Bar Restrictions: (7) School Close; (8) Gathering Restrictions; (9) Travel Restrictions; and (10) Quarantine/Case Isolation orders. We add a 1 for each restriction that is present in a state.) *Rel Exist* is a dummy equal to 1 if the borrower had a prior loan with the bank over the past three years. The sample includes corporate loans reported in the Y-14Q by banks with total assets above $100 billion between April 1, 2018, and June 30, 2020. All variables are defined in the Table 1. Standard errors are clustered at the bank × industry level. ***, **, and * denotes statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Effects for High PPP Banks Using Term Loans

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index
Rel Exist × COVID-19 Shock × High PPP Bank	-0.035**	-0.006	-0.043**	-0.031**	0.021***	0.007***	0.023***	0.016***	0.003	0.001	0.002	0.017	0.005	-0.005	0.006	0.004
	(-2.43)	(-0.54)	(-2.39)	(-2.05)	(5.35)	(2.94)	(5.24)	(3.48)	(0.30)	(0.15)	(0.13)	(1.33)	(0.39)	(-0.72)	(0.48)	(0.25)
Rel Exist × COVID-19 Shock	0.041***	0.013**	0.045***	0.035***	-0.013***	-0.002	-0.014***	-0.005	-0.016**	-0.008*	-0.017*	-0.031***	-0.010	0.003	-0.011	-0.011
	(3.75)	(2.28)	(3.18)	(3.07)	(-3.93)	(-0.83)	(-3.86)	(-1.31)	(-2.20)	(-1.69)	(-1.95)	(-3.01)	(-1.19)	(0.53)	(-1.09)	(-0.90)
High PPP Bank × COVID-19 Shock	-0.001	0.015***	-0.006	0.027**	-0.002	0.002	-0.001	0.003	0.018**	0.003	0.024***	0.010	0.007	0.008	0.008	0.002
	(-0.09)	(2.63)	(-0.43)	(2.27)	(-0.84)	(1.38)	(-0.37)	(0.84)	(2.37)	(0.75)	(2.68)	(1.24)	(0.63)	(1.20)	(0.69)	(0.18)
Rel Exist × High PPP Bank	-0.194***	-0.269***	-0.179***	-0.249***	-0.095***	-0.073***	-0.096***	-0.083***	0.002	0.019	0.003	-0.009	-0.002	0.018	-0.004	-0.001
	(-3.45)	(-5.24)	(-3.13)	(-4.60)	(-4.45)	(-3.56)	(-4.45)	(-3.98)	(0.06)	(0.44)	(0.06)	(-0.22)	(-0.04)	(0.34)	(-0.06)	(-0.02)
Rel Exist	0.121***	0.188***	0.109**	0.169***	0.007	-0.011	0.008	-0.006	-0.225***	-0.244***	-0.224***	-0.213***	0.060	0.038	0.060	0.059
	(2.77)	(4.65)	(2.47)	(3.94)	(0.40)	(-0.66)	(0.44)	(-0.36)	(-5.79)	(-6.36)	(-5.82)	(-5.77)	(1.49)	(0.99)	(1.48)	(1.47)
COVID-19 Shock	0.033***	-0.011***	0.067***	0.006	0.005	-0.002	-0.012	0.001	-0.009	0.006	-0.055	0.035***	-0.027	-0.006	-0.036	0.026**
	(2.88)	(-2.97)	(4.46)	(0.57)	(0.59)	(-1.49)	(-0.71)	(0.22)	(-0.35)	(1.62)	(-0.93)	(3.85)	(-0.98)	(-1.06)	(-0.71)	(2.21)
High PPP Bank	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	24,334	24,334	24,334	24,334	27,152	27,152	27,152	27,152	27,150	27,150	27,150	27,150	27,152	27,152	27,152	27,152
Adjusted R-squared	0.224	0.222	0.228	0.223	0.379	0.379	0.379	0.379	0.326	0.326	0.327	0.327	0.474	0.474	0.474	0.474

Panel B. Effects for High PPP Banks Using Revolvers

Dependent Variable	Interest Rate Spread				Collateral				Ln(Maturity)				Ln(Loan Amount)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
COVID-19 Variable	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index	US New Cases/ 100K Pop	State New Cases/ 100K Pop	US Restrict Index	State Restrict Index
Rel Exist × COVID-19 Shock × High PPP Bank	-0.011	0.002	0.005	0.010	0.013***	0.008***	0.013***	0.010**	-0.011	-0.001	-0.013	-0.005	-0.003	-0.003	-0.007	0.003
	(-0.41)	(0.18)	(0.16)	(0.45)	(3.18)	(3.67)	(2.79)	(2.00)	(-1.37)	(-0.22)	(-1.45)	(-0.53)	(-0.15)	(-0.34)	(-0.34)	(0.13)
Rel Exist × COVID-19 Shock	0.014	0.004	0.004	-0.003	-0.003	-0.002	-0.002	0.002	-0.002	-0.004	-0.003	-0.008	-0.011	-0.008	-0.011	-0.022
	(0.63)	(0.49)	(0.17)	(-0.21)	(-1.09)	(-1.09)	(-0.70)	(0.47)	(-0.38)	(-0.99)	(-0.41)	(-0.87)	(-0.78)	(-1.17)	(-0.60)	(-1.05)
High PPP Bank × COVID-19 Shock	-0.025	-0.001	-0.045**	-0.006	-0.006***	-0.003**	-0.007***	-0.005**	0.021***	0.007**	0.024***	0.017***	0.016	0.007	0.025**	0.007
	(-1.38)	(-0.17)	(-2.05)	(-0.37)	(-2.63)	(-2.47)	(-2.79)	(-2.00)	(4.00)	(2.35)	(4.07)	(3.08)	(1.59)	(1.17)	(2.27)	(0.62)
Rel Exist × High PPP Bank	-0.054	-0.076	-0.070	-0.047	-0.063***	-0.056***	-0.061***	-0.059***	-0.019	-0.025	-0.018	-0.025	-0.101**	-0.094*	-0.098**	-0.110**
	(-0.64)	(-0.96)	(-0.83)	(-0.60)	(-4.26)	(-4.16)	(-4.12)	(-3.95)	(-0.69)	(-0.87)	(-0.63)	(-0.95)	(-2.10)	(-1.80)	(-2.05)	(-2.33)
Rel Exist	-0.059	-0.041	-0.047	-0.061	-0.029***	-0.032***	-0.031***	-0.035***	-0.102***	-0.105***	-0.101***	-0.097***	0.254***	0.244***	0.254***	0.267***
	(-0.94)	(-0.64)	(-0.74)	(-0.99)	(-3.30)	(-3.41)	(-3.41)	(-3.55)	(-4.78)	(-4.92)	(-4.74)	(-4.72)	(7.02)	(5.51)	(7.06)	(7.15)
COVID-19 Shock	-0.178**	-0.018***	-0.131	-0.136***	0.000	0.001	0.004	0.008**	-0.020	-0.001	-0.024	0.010	0.031	0.004	-0.045	0.047***
	(-2.51)	(-2.61)	(-0.87)	(-4.41)	(0.01)	(1.09)	(0.22)	(2.22)	(-1.18)	(-0.72)	(-0.62)	(1.59)	(0.83)	(0.86)	(-0.81)	(3.63)
High PPP Bank	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Loan/Firm/Bank/County Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Bank & Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	13,807	13,807	13,807	13,807	26,183	26,183	26,183	26,183	26,180	26,180	26,180	26,180	26,183	26,183	26,183	26,183
Adjusted R-squared	0.286	0.286	0.286	0.290	0.442	0.442	0.442	0.443	0.290	0.289	0.290	0.289	0.550	0.550	0.550	0.551