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Does Bank Lending Matter for Large Firms' Investment?

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1. INTRODUCTION

Does bank lending matter for corporate investment? On the one hand, if corporations have easy access to alternative sources of finance such as internal financing, external equity, or bond issuance, then investment will be less affected by how much banks are willing to lend. On the other hand, if corporations are strongly attached to bank lending, then disruptions in bank financing might affect firms' investment.

Starting from Kashyap, Stein, and Wilcox (1993), this question has spurred a large literature.[1] Most studies are subject to the criticism of being unable to distinguish between pure supply variations in bank lending and changes in credit demand. However, the increasing trend of focusing away from macro-level to firm-level data has offered new opportunities to deal with this endogeneity. For example, in a recent article, Chodorow-Reich (2014) used cross-sectional variation in disruptions of banking relationships to analyze the employment effects of the recent financial crisis. His findings point toward significant effects of bank lending for the employment of small firms.

This article uses similar identification techniques to address whether bank lending matters for corporate investment. To my knowledge, there is no work employing microdata on banking relationships to analyze the

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[1] Other significant papers analyzing the effect of bank lending are Bernanke and Blinder (1988) and Ramey (1993).

effect of bank lending on firm investment. The exercise combines income statement and balance sheet information on publicly listed firms from Compustat with information from Loan Pricing Corporation's DealScan. Following Chodorow-Reich (2014), I use DealScan data to identify the banking institutions in lending relationships with the firms in the Compustat sample. For each bank, I construct an index—the bank lending ratio—summarizing how much banks decreased lending after the crisis compared to their pre-recession level. I then construct a firm-specific measure of bank lending supply: the relative exposure of each firm to banks that faced severe lending disruptions. Intuitively, a firm heavily borrowing from a bank that experienced difficulties would find it harder to expand its credit compared with a firm that was borrowing from healthier banks.

The key idea is that disruptions in credit could be considered an exogenous event for a particular firm. For example, banks that experienced financial turmoil did so mainly due to their exposure to risky financial instruments such as toxic mortgage loans. Using this type of variation, one can abstract from traditional measures of bank lending that are more likely to suffer from endogeneity. An example of such measure is the aggregate bank share of debt issuance (Kashyap, Stein, and Wilcox 1993).

It turns out that the two measures yield completely different results. The aggregate bank share is strongly correlated with the change in investment. During periods of lower bank share, firm-level investment decreases. In sharp contrast, our "exposure" measure (a proxy for a firm's ability to borrow) does not affect investment in a significant way.

A caveat of our exercise is that we focus on publicly listed firms from Compustat. These firms are typically large firms that can substitute more easily bank lending with not only external equity financing but also internal equity. As a result, it would be a mistake to extrapolate our findings for the universe of U.S. firms. It is very likely that bank lending can have significant effects on smaller firms, which are not included in the sample.

This paper contributes to the literature analyzing the effect of bank lending on macroeconomic variables. Bernanke and Blinder (1988) develop a model that allows roles for both money and bank loans. Ramey (1993) studies the importance of the credit channel on the transmission of monetary policy. Kashyap, Stein, and Wilcox (1993) explore the existence of a loan supply channel using bank loan and commercial paper measures.

Berger and Udell (1995) show that small firms with longer banking relationships borrow at lower rates and are less likely to pledge collateral than other small firms. Ivashina and Scharfstein (2010) show that

banks cut their lending less if they were not reliant on short-term debt and had better access to deposit financing. Jiminez, Mian, Peydro, and Saurina (2014) analyze the impact of securitization of real estate assets on the supply of credit to non-real estate firms. Becker and Ivashina (2014) also use firm-level evidence from DealScan. While their main focus is to provide evidence of bank supply shocks, they also related the aggregate bank share to investment. As mentioned, we consider this measure to be prone to endogeneity. Hence, this paper exploits a different measure based on bank lending relationships.

2. EMPIRICAL ANALYSIS

Data Description

To analyze the effect of bank lending on investment, we combine two datasets. The first is the Compustat annual database, which includes balance sheet information on publicly listed companies. Since these companies are much larger than the representative firm, our analysis is better viewed as applying to large firms. The second dataset is the Loan Pricing Corporation's DealScan from Thomson Reuters. This dataset includes daily information on new bank loan issuances for a large set of companies both private and public. The information on loan characteristics includes (among others) the name of the firm undertaking the loan, the amount issued, the issue date, the type and purpose of the loan, and the cost and maturity of the loan. Moreover, there is information on the name of the banks that act as a syndicate to lend money as well as which bank(s) act as book manager (leader of deal). Being able to identify where the loan originates is crucial for the analysis.

We will focus only on nonfinancial U.S. firms for the period between 2000–13. Investment is defined as capital expenditures on property, plant, and equipment (Compustat data item #30). Within DealScan, I exclude firms in financial- and government-affiliated industries and only include loans used for construction of capital buildings or other construction, capital expenditures, and property development. This way I exclude loan deals not used for real investment purposes such as refinancing, stock buyback, or mergers. We deflate all variables by the Producer Price Index.

After these restrictions, we are left with a total of 2,022 firms and a total of 11,390 observations. As mentioned, the DealScan sample includes a much larger set of firms both private and public. In particular, it includes 21,457 firms and a total of 114,989 observations. Table 1 provides summary statistics for loan issuance. We report these statistics for both our sample (the intersection of Compustat and DealScan)

Table 1 Summary Statistics for Loan Issuances (2000–13)

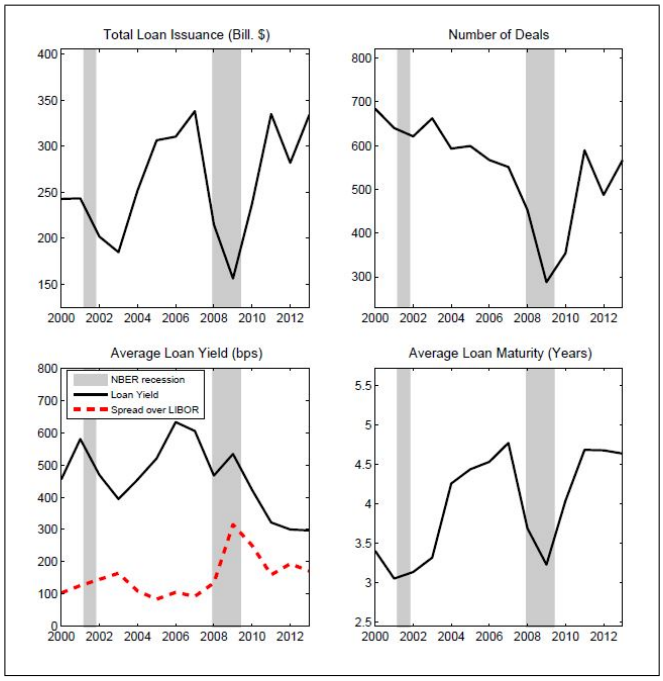
	DealScan	**DealScan & Compustat**
Deals #	29,447	7,670
Average Amount (Millions $)	168.9	263.6
Maturity (Years)	3.8	3.8
Spread over LIBOR (bps)	166.4	132.4
Firms #	21,457	2,022
Observations #	114,989	11,390

and the complete DealScan dataset. During our period, there are a total of 7,670 loans issued to Compustat firms. The total number of loan deals in all firms in DealScan is 29,447. The average amount of a loan deal is $263 million in our sample. In the full DealScan dataset, the average amount is $169 million. In both, the average loan deal matures in 3.8 years. We measure the cost of a loan deal as the spread over the LIBOR of the respective maturity. To compute the average, we weight each deal by its size relative to the total amount issued in the given year. In our sample the average spread is 132 basis points. In DealScan it is higher, around 166 basis points.

Figure 1 plots several patterns of bank loan financing during 2000–13. The most striking pattern is the sharp reduction in bank loan issuance during the recent crisis. Issuance decreased from $215 billion in 2007 to $156 billion in 2009 (upper left panel). By 2011, bank lending had returned to the pre-recession levels. The procyclicality of bank financing is also evident in the 2001 recession. The upper right panel plots the number of loan deals per year. The number decreased from 551 in 2007 to 288 in 2009, almost one-half of the pre-recession level. I also compute the average amount per loan deal, although it is not plotted in Figure 1. The per-deal amount also decreased from $338 million in 2007 to $156 million in 2009. Hence, the sharp decline in loan financing was the result of both fewer firms getting a loan and of those that borrowed less.

In parallel with the decline in loan financing, the cost of loans rose sharply. The lower left panel of Figure 1 plots the average yield as the spread over LIBOR and the loan yield, which is defined as the spread plus LIBOR. The difference between the two lines gives the LIBOR path. As mentioned, deals are weighted by their size. Loan spreads increased from 92 bps in 2007 to 315 bps in 2009. Although the spreads decreased in 2010, they stabilized at a higher level compared with the pre-recession level. However, the overall yield did not increase as much due to the decreasing interest rates of LIBOR. In 2013, the yield was significantly lower than the pre-recession level. Finally, the lower right

Figure 1 Loan Issuance



Notes: Upper left panel shows the total loan issuance in billions of dollars. Upper right panel shows the total number of loan deals. All amounts are deflated using the PPI. Lower left panel shows the yield to maturity in BPS. Dotted line shows the spread over LIBOR, while the solid shows spread + LIBOR. Lower right panel shows the average maturity of loan deals.

panel of Figure 1 plots the average maturity of loan deals in our sample, which decreased from 4.7 years in 2007 to 3.2 years in 2009.

Note that the patterns outlined above seem to hold for the 2001 recession as well. Total loan issuance and number of deals decreased (but not as sharply). The loan yield decreased, but the spread over LIBOR increased. The only difference is that average loan maturity was increasing from a low rate even from 2001 and accelerated once the recession was over.

The Identification Scheme

Our main goal is to understand how variations in bank loan supply affect the firms' investment decisions. A simple approach is to regress the

change in investment by firm i in period t on some aggregate measure of bank loan supply in period t:

$$\Delta\text{Investment}_{i,t} \;=\; \beta_0 \;+\; \beta_1 \text{ Bank Loan Supply}_t + \varepsilon_{i,t}$$

The coefficient β_1 gives the causal effect of the change in firms' investment due to changes in banks' loan supply if there are no underlying factors affecting both variables. Hence, the identification assumption is that $Cov(\text{Bank Loan Supply}_t, \varepsilon_{i,t}) = 0$. This is a strong assumption that may very likely be violated. For example, changes in both investment and bank loan supply may be driven by business cycle conditions. In particular, firms may decrease their investment due to lower expected demand and consequently decrease their demand for credit. Hence, investment may be responsible for the decrease in bank lending, not the other way around.

To distinguish pure bank loan supply movements from other variations, such as demand variations for credit, I consider two empirical measures of bank lending supply. The first is the bank loans share—the share of corporate debt issuance financed via bank loans. This measure is very likely subject to the endogeneity described above.

The second measure is based on bank lending relationships: it captures the exposure of firms to "unhealthy" banks. Typically, banks lend to a large number of firms. Hence, the decision of a bank to lend is likely to be unrelated to a specific firm's performance. Moreover, banks that experienced financial turmoil did so mainly due to their exposure to risky financial instruments such as toxic mortgage loans. Hence, this measure could be considered as an exogenous event for the particular firm and, hence, less prone to endogeneity.

Empirical Proxies for Bank Lending Supply

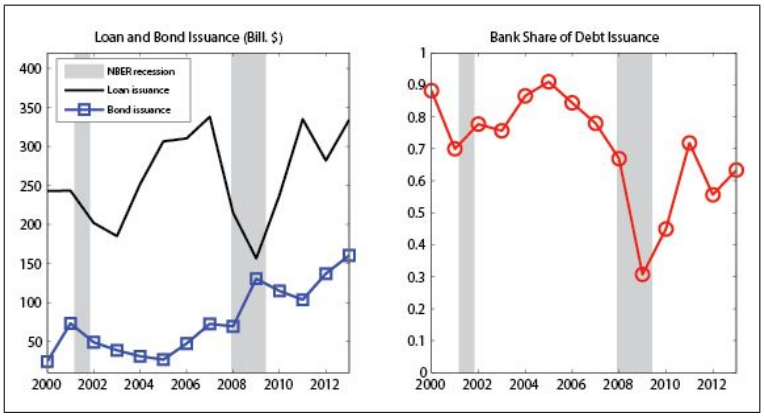
The Bank Share of Debt Issuance

Our first measure of bank lending supply is an aggregate measure: the share of corporate debt issuance financed via bank loans. In particular, we define the bank loan share in period t as

$$\text{Bank Loan Share}_t = \frac{\text{\$ Total Bank Loan Issuance}_t}{\text{\$ Total Debt Issuance}_t}$$

Total debt issuance is defined as the total bank loan issuance plus corporate bond issuance. For corporate bond issuance we use the Securities Data Corporations' New Bond Issuance database, which is again available through Thomson Reuters. Similar to loan issuance, we have information on the amount, issue date, maturity, cost, and issuer name

Figure 2 Loan and Bond Issuance



Notes: Left panel shows the total loan and bond issuances in billions of dollars. Right panel shows the bank loan share of debt issuance. All amounts are deflated using the PPI.

for corporate bond issuances. The screening of bond issuance follows similar steps to the ones for loan issuance.

The left panel of Figure 2 plots the aggregate bond issuance alongside aggregate loan issuance. In contrast to bank loan lending, bond issuance increased between 2007–09. Issuance of new bonds totaled around $80 billion in 2007 and went up to $130 billion during the crisis. This was the result of more firms choosing bond issuance as a means of financing. In particular, the annual number of bond deals increased from around 200 to 400 per year. In contrast, given bond issuance, the average amount of issuance decreased (but less than the decrease in the average loan issuance). In particular, the average amount per bond deal decreased from around $350 million to around $300 million. That means that on average firms substituted bank loan financing with corporate debt issuance. This is consistent with the findings of Adrian, Colla, and Shin (2012).

The right panel of Figure 2 plots the bank share of debt issuance. During the period 2002–07 firms financed (on average) nearly 80 percent of their borrowing using bank loans. During the financial crisis, this share decreased dramatically to 30 percent. As mentioned, this was the result of firms assuming less bank loan debt and at the same time partially substituting loan issuance with corporate debt issuance.

The bank share of debt issuance is a traditional measure of aggregate bank lending conditions also used by Kashyap, Stein, and Wilcox (1993). While the latter paper considers only short-term debt (commercial paper), I consider bonds of all maturities.

Bank Lending Relationships

The second measure of bank lending is based on Chodorow-Reich (2014). While the bank share is an aggregate measure (indexed by period t) this measure is firm-specific. In particular, I measure a firm's exposure to banks that experienced reductions in their lending during the crisis. Being exposed to a bank means being in a business relationship with the bank in the form of acquiring a loan.

Disruptions are measured by the difference in a bank's loan issuance before and after the crisis. Some banks exhibited a sharp reduction in their lending while others maintained a constant flow. An extreme example is Lehman Brothers, which went out of business in September 2008. If a firm was borrowing primarily from Lehman Brothers, then this firm experienced a more severe tightening in its borrowing capacity compared to other firms that were borrowing from other institutions.

The key identification assumptions are 1) the continuation of banking relationships are unrelated to the individual firm's performance, and 2) a disruption in bank lending is firm-specific, i.e. it directly affects a small set of firms.

1. Banks' performance and firms' performance. One question is whether a disruption in a bank's lending is caused by a deteriorating performance of a firm doing business with the bank. There are a couple of reasons why we would expect this not to be the case. First, banks lend to a very large number of firms often from different industries. In our sample, the median bank lends to 1,996 different firms. Hence, a particular firm may be too small to affect the banks' balance sheet. Second, in the recent crisis, banks experienced financial problems depending on their exposure to particular assets such as toxic mortgage loans. Hence, the continuation of lending by a particular bank is likely to not be related to an individual firm's performance.

2. Bank shocks as firm-specific shocks. A typical loan is provided by a group of banks (syndicate). One of these banks—the book manager—leads, originates, structures, and runs the books of the deal. The book manager typically provides the largest portion of the loan. It is rare for a deal to include more than one book manager. The main question here is whether firms use different

Table 2 Total Fraction of Firms Borrowing From a Given Number of Banks

Number of Banks	Fraction of Firms	Average Number of Deals
1	76%	1.9
2	16%	4.4
3	5%	7.2
4	1%	9.9

Note: The table calculates the fraction of firms borrowing from a given number of banks for the period 2000–13. The table also reports how many loan deals have these firms made.

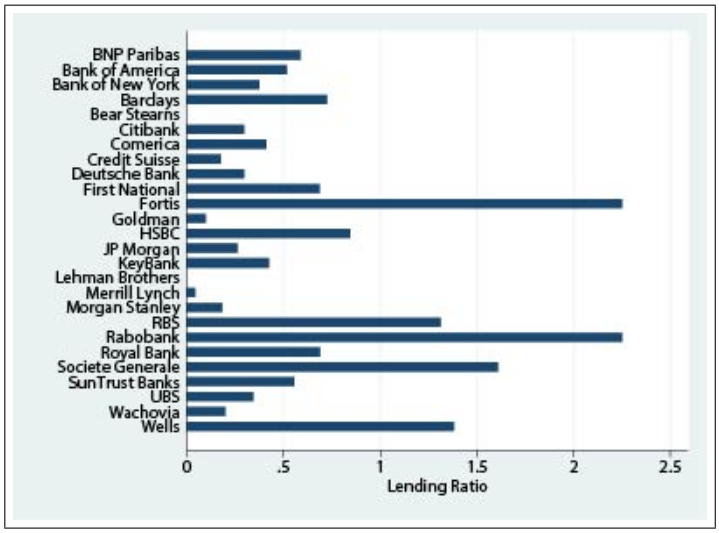
banks for different deals or use the same set of banks for all their deals. In Table 2, I calculate the number of banks that a typical firm uses for borrowing. In our sample, 76 percent of firms are borrowing from just one bank. These firms have made, on average, 1.9 deals, which means there are many firms applying to the same bank for a new loan. Sixteen percent of firms are using two banks for an average of 4.4 deals. Finally, 5 percent and 1 percent of firms are using three and four banks, respectively. These numbers corroborate the hypothesis that firms typically borrow repeatedly from the same set of banks. Hence, it may be natural to think of a bank's performance as a "firm-specific" shock.

The following section describes the construction of our empirical measure for bank lending. First, I calculate how many loans a bank made before and after the crisis. A loan deal is associated with a bank if the bank's name appears as a primary writer of the deal. I perform this calculation for the period October 2005 to June 2007 and the period October 2008 to June 2009. Then for every bank j, I calculate the ratio:

$$\text{Bank Lending Ratio}_j = \frac{18}{8} \times \frac{\#\text{ Loans given by bank } j \text{ in October 2008 - June 2009}}{\#\text{ Loans given by bank } j \text{ between October 2005 - June 2007}} \quad (1)$$

The ratio is multiplied by $\frac{18}{8}$ to adjust for the fact that the numerator accounts for a shorter period (in months) than the denominator. Figure 3 plots the bank lending ratio for a selected group of banks. The median lending ratio is 0.55: after 2008, the median bank gave almost half as many loans as it gave before the crisis. However, there

Figure 3 Bank Lending Ratio



Notes: The figure plots the bank lending ratio: the number of loan deals issued by a bank during October 2008 to June 2009 to the number of loan deals issued by the same bank during October 2005 to June 2007

is a lot of heterogeneity in the lending ratio, with some banks performing much better than others. Lehman Brothers did not give any loans in the period October 2008 to June 2009, so its lending ratio is 0 and the same holds for Bear Stearns. In contrast, institutions such as Wells Fargo, Societe Generale, Rabobank, and Fortis experienced strong lending growth even after the crisis.[2]

The next step is to construct a firm-specific measure of exposure to "unhealthy" banks. To do so, we calculate how much a firm borrowed from a particular bank over the entire sample period 2000–13. We define the weight as

$$w_{i,j} = \frac{\text{\$ Borrowed by firm } i \text{ through bank } j}{\text{Total \$ Borrowed by firm } i}$$

We then define the exposure measure as

[2] The growth of Wells Fargo does not reflect its acquisition of Wachovia in October 2008 since in our data Wachovia exhibits positive growth in loan issuance even after October 2008.

$$DL_i = \sum_j w_{i,j} \times \text{Bank Lending Ratio}_j$$

DL_i summarizes the change in borrowing opportunities by firm i before and after the crisis. If a firm is borrowing heavily from a bank with a low lending ratio, then its borrowing opportunities decreased during the recession and vice versa. If a firm used a balanced borrowing strategy, it is more likely to have a DL_i close to the average lending ratio. It turns out that the average firm has an exposure measure equal to 0.40 with a standard deviation of 0.38.

3. EMPIRICAL SPECIFICATIONS AND RESULTS

In section 2.3, we defined supply-side disruptions to bank lending using two measures: 1) the aggregate bank share and 2) a firm's exposure to "unhealthy" banks. I have argued so far that the second measure is less prone to endogeneity than the first measure. The purpose of this section is to explore how bank lending affects firm-level investment using both measures.

There is a vast literature on the determinants of investment. The prototype paper of Fazzari, Hubbard, and Petersen (1988) tested whether investment depends solely on Tobin's Q or if a firm's cash flows matters as well. Our empirical specification builds on their framework but also includes our variable of interest: bank lending.

In particular, the first specification is

$$\begin{aligned}(\frac{\Delta I}{K})_{i,t} = \beta_0 + \beta_1 (\frac{\text{Cash Flow}}{K})_{i,t} + \beta_2 \log(Q)_{i,t} + \beta_3 \text{ Bank Share }_t + \\ + \ \beta_4 \ \text{Bank Share}_t \times (\frac{\text{Cash Flow}}{K})_{i,t} + \mathbf{X}'_{i,t}\gamma + \varepsilon_{i,t} \qquad (2)\end{aligned}$$

Equation (2) uses the "aggregate bank share" as a measure of bank lending. In this specification, we make use of the panel dimension of our data between 2000–13. Hence, we have information for every firm i at year t. We drop firms that are in our sample for less than four years or firms that do not appear in all consecutive years. The dependent variable $\frac{\Delta I}{K}$ for firm i in period t is the change in investment for firm i between year t and $t-1$ normalized by the firm's total assets in year $t-1$.

As mentioned, we control for the firm's cash flows and Tobin's Q in period t. Tobin's Q for firm i in period t is defined as the firm's common shares outstanding multiplied by the stock price at closing time in period t divided by firm's assets in period t. The main regressor of

interest is "Bank Share," our proxy for bank lending in this specification. Note that bank lending is an average over firms for every period, so it is only indexed by t. We also control for other firm characteristics. In particular, $X'_{i,t}$ is a vector including log-assets, the leverage ratio (debt-to-assets ratio), and a dummy variable indicating whether the firm paid some cash dividends during the year. Also note that this specification allows the inclusion of fixed effects.

In the second specification, the main regressors are a firm's "exposure to unhealthy banks," which serves as a proxy for access to borrowing. The "exposure" measure is firm-specific and is constructed using a ratio over years. Hence, the specification relies on cross-sectional variation (variables only indexed by i but not t). So we cannot include fixed effects here. The regression is

$$\left(\frac{\Delta I_i}{K_{i,2006}}\right) = \beta_0 + \beta_1 \left(\frac{\text{Cash Flow}}{K}\right)_{i,2006} + \beta_2 \log(Q)_{i,2006} + \beta_3 DL_i + \\ + \beta_4 DL_i \times \left(\frac{\text{Cash Flow}}{K}\right)_{i,2006} + \mathbf{X}'_{i,2006}\gamma + \varepsilon_i \tag{3}$$

The dependent variable in equation (3) is defined as

$$\Delta I_i = \frac{\text{Average Investment between 2009 - 2010}}{\text{Average Investment between 2006 - 2008}} \tag{4}$$

Since investment is affected with a lag, we compare investment between 2006–08 to 2009–10. We divide this ratio by assets in our base year 2006. In our specification, we also include the cash flow ratio, Tobin's Q, and covariates for the base year 2006.

For convenience we present in Table 3 the coefficients from a simple regression of bank lending (using both measures) to investment without any controls. The main takeaway is that results change sharply when we switch from one bank lending measure to the other. In the first specification ("aggregate bank share") bank lending is highly procyclical and significant. When the aggregate bank share decreases by 1 percentage point, investment (normalized by assets) decreases by 6.6 percentage points. In contrast, in the second specification ("firm's exposure") the coefficient on bank lending is significant.

As mentioned, Tables 4-12 in the Appendix provide the full set of coefficients for both regressions. In all specifications that include the aggregate bank share, bank lending is strongly correlated with the change in investment. The coefficient is statistically significant and varies between [0.056-0.066]. Consistent with the results of Fazzari, Hubbard, and Petersen (1988), cash flow is an important determinant of investment alongside Tobin's Q. However, when we include the aggregate bank share, cash flow loses its significance.

Table 3 Investment and Bank Lending

	Dependent variable = Change in investment	
Bank Lending Measure	Aggregate Bank Share	Firm's Exposure
Specification	Equation (2)	Equation (3)
Bank Lending	0.066***	-0.001
	(0.003)	(0.000)

Notes: One, two, or three stars represent significance at 1 percent, 5 percent, and 10 percent, respectively.

There does not seem to be any interaction between cash flows and changes in the bank share for the whole sample. However, when we divide the sample between firms with and without access to the bond market (Tables 6-9), surprisingly, the interaction becomes significant for firms with access to bond markets. Moreover, when fixed effects are included (Table 5), size (as proxied by log-assets) is positively related with the change in investment and leverage is negatively related. Dividend payout is negatively related, albeit less statistically significant.

Results from regression 3 are presented in Tables 10-12 in the Appendix. In all specifications the firm's exposure to unhealthy banks is not significant. However, in this specification, the interaction between cash flow and bank supply is positive, which seems to go against the intuition that high-cash-flow firms must be less affected by changes in borrowing opportunities.

4. CONCLUSION

In this article, I examine if bank lending matters for corporate investment. Following Chodorow-Reich (2014), I use DealScan data to construct a firm-specific measure of bank lending supply: the relative exposure of each firm to banks that faced severe lending disruptions. I find that bank lending does not significantly affect investment. In contrast, a traditional measure of bank lending, such as the aggregate bank share of debt issuance, points to a strong relation between bank lending investment.

The exercise focuses on large, publicly listed firms from Compustat. These firms can typically substitute more easily bank lending with other financing tools such as external and internal equity. Hence, it would

be useful for one to use the same methodology to examine the effect of bank lending on small firms. Unfortunately, to my knowledge, data on the investment decision of small firms is not readily available. Hence, we leave this as a future research question.

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Table 4 Investment and Bank Lending: Bank Debt Share

Cash Flow/Assets	0.005***	0.006	0.006	0.006	0.007
	(0.001)	(0.006)	(0.006)	(0.006)	(0.006)
log (Q)	0.014***	0.013***	0.013***	0.014***	0.014***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Bank Share		0.056***	0.056***	0.056***	0.056***
		(0.003)	(0.003)	(0.003)	(0.003)
Bank Share		-0.001	-0.001	-0.001	-0.002
x Cash Flow/Assets		(0.009)	(0.009)	(0.009)	(0.009)
Log Assets			0.0002	0.0000	0.0003
			(0.0002)	(0.0002)	(0.0002)
Leverage				0.006***	0.005***
				(0.002)	(0.002)
Dividend Payout					-0.002***
					(0.0008)
Observations	23106	23106	23106	23106	23106
Fixed Effects	No	No	No	No	No
Access to Bond Market	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

Table 5 Investment and Bank Lending: Bank Debt Share

Cash Flow/Assets	0.005**	0.014	0.019*	0.018*	0.018*
	(0.002)	(0.009)	(0.009)	(0.006)	(0.009)
log (Q)	0.029***	0.026***	0.027***	0.027***	0.027***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Bank Share		0.057***	0.061***	0.062***	0.062***
		(0.003)	(0.003)	(0.003)	(0.003)
Bank Share		-0.012	-0.001	-0.014	-0.014
x Cash Flow/Assets		(0.012)	(0.012)	(0.012)	(0.012)
Log Assets			0.007***	0.007***	0.007***
			(0.001)	(0.001)	(0.001)
Leverage				-0.009**	-0.009**
				(0.004)	(0.004)
Dividend Payout					0.003**
					(0.001)
Observations	23106	23106	23106	23106	23106
Fixed Effects	Yes	Yes	Yes	Yes	Yes
Access to Bond Market	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

Table 6 Investment and Bank Lending: Bank Debt Share

Cash Flow/Assets	0.005***	0.005	0.006	0.006	0.006
	(0.001)	(0.007)	(0.007)	(0.007)	(0.007)
log (Q)	0.016***	0.015***	0.015***	0.016***	0.015***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Bank Share		0.052***	0.052***	0.052***	0.052***
		(0.004)	(0.004)	(0.004)	(0.004)
Bank Share		-0.000	-0.000	-0.001	-0.001
x Cash Flow/Assets		(0.009)	(0.009)	(0.009)	(0.009)
Log Assets			0.0004	0.0002	0.0007
			(0.0003)	(0.0003)	(0.0003)
Leverage				0.007**	0.006**
				(0.002)	(0.002)
Divident Payout					-0.004***
					(0.001)
Observations	15994	15944	15944	15944	15944
Fixed Effects	No	No	No	No	No
Access to Bond Market	No	No	No	No	No

Table 7 Investment and Bank Lending: Bank Debt Share

Cash Flow/Assets	0.004*	0.001	0.016*	0.015	0.015
	(0.002)	(0.009)	(0.009)	(0.009)	(0.009)
log (Q)	0.030***	0.027***	0.028***	0.027***	0.027***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Bank Share		0.054***	0.058***	0.058***	0.058***
		(0.004)	(0.004)	(0.004)	(0.004)
Bank Share		-0.011	-0.012	-0.012	-0.012
x Cash Flow/Assets		(0.012)	(0.012)	(0.012)	(0.012)
Log Assets			0.006***	0.006***	0.006***
			(0.001)	(0.001)	(0.001)
Leverage				-0.009	-0.008
				(0.005)	(0.005)
Dividend Payout					0.002
					(0.002)
Observations	15944	15944	15944	15944	15944
Fixed Effects	Yes	Yes	Yes	Yes	Yes
Access to Bond Market	No	No	No	No	No

Table 8 Investment and Bank Lending: Bank Debt Share

Cash Flow/Assets	0.012***	-0.264**	-0.264**	-0.264**	-0.264**
	(0.012)	(0.106)	(0.105)	(0.105)	(0.106)
log (Q)	0.009***	0.007***	0.007***	0.007***	0.007***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Bank Share		0.056***	0.057***	0.057***	0.057***
		(0.006)	(0.006)	(0.006)	(0.006)
Bank Share		0.540***	0.553***	0.555***	0.555***
x Cash Flow/Assets		(0.143)	(0.144)	(0.144)	(0.144)
Log Assets			0.001**	0.001**	0.001**
			(0.000)	(0.000)	(0.000)
Leverage				0.004	0.004
				(0.004)	(0.004)
Dividend Payout					0.0003
					(0.001)
Observations	7162	7162	7162	7162	7162
Fixed Effects	No	No	No	No	No
Access to Bond Market	Yes	Yes	Yes	Yes	Yes

Table 9 Investment and Bank Lending: Bank Debt Share

Cash Flow/Assets	0.070	-0.114	-0.102	-0.102	-0.103
	(0.053)	(0.184)	(0.197)	(0.197)	(0.195)
log (Q)	0.026***	0.022***	0.027***	0.027***	0.027***
	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)
Bank Share		0.060***	0.066***	0.066***	0.066***
		(0.006)	(0.006)	(0.006)	(0.006)
Bank Share		0.252	0.295	0.293	0.294
x Cash Flow/Assets		(0.285)	(0.291)	(0.292)	(0.288)
Log Assets			0.013***	0.013***	0.013***
			(0.002)	(0.002)	(0.002)
Leverage				-0.005	-0.004
				(0.009)	(0.009)
Dividend Payout					0.005
					(0.002)
Observations	15944	15944	15944	15944	15944
Fixed Effects	Yes	Yes	Yes	Yes	Yes
Access to Bond Market	Yes	Yes	Yes	Yes	Yes

Table 10 Investment and Bank Lending: Exposure Measure

Cash Flow/Assets	0.086***	0.063***	0.040***	0.040***	0.040***
	(0.004)	(0.005)	(0.006)	(0.006)	(0.006)
log (Q)	-0.001***	-0.001***	-0.001**	-0.012**	-0.012**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
DL		-0.001	-0.001*	-0.001*	-0.001*
		(0.000)	(0.000)	(0.000)	(0.000)
DL x Cash Flow/ Assets		0.050***	0.053***	0.053***	0.052***
		(0.009)	(0.009)	(0.009)	(0.009)
Log Assets			-0.001***	-0.001***	-0.001***
			(0.000)	(0.000)	(0.000)
Leverage				0.0001	0.0001
				(0.001)	(0.001)
Dividend Payout					0.0005
					(0.0003)
Observations	819	819	819	819	819
Access to Bond Market	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

Table 11 Investment and Bank Lending: Exposure Measure

Cash Flow/Assets	0.087***	0.057***	0.016	0.016	0.017
	(0.007)	(0.010)	(0.012)	(0.012)	(0.012)
log (Q)	-0.003***	-0.003***	-0.001	-0.0008	-0.0008
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
DL		-0.002*	-0.001*	-0.001	-0.001
		(0.001)	(0.000)	(0.000)	(0.000)
DL x Cash Flow/ Assets		0.059***	0.053***	0.052***	0.052***
		(0.015)	(0.014)	(0.014)	(0.014)
Log Assets			-0.003***	-0.003***	-0.003***
			(0.000)	(0.000)	(0.000)
Leverage				0.002	0.002
				(0.02)	(0.02)
Dividend Payout					0.0001
					(0.0008)
Observations	322	322	322	322	322
Access to Bond Market	No	No	No	No	No

Table 12 Investment and Bank Lending: Exposure Measure

Cash Flow/Assets	0.065***	0.057***	0.034***	0.034***	0.034***
	(0.004)	(0.009)	(0.009)	(0.009)	(0.012)
log (Q)	-0.0002	-0.0003	-0.000	-0.000	-0.000
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
DL		0.000	0.000	0.000	0.000
		(0.0004)	(0.0002)	(0.0002)	(0.0002)
DL		0.026	0.026	0.024***	0.022
x Cash Flow/					
Assets		(0.024)	(0.023)	(0.023)	(0.023)
Log Assets			-0.0006***	-0.0006***	-0.0007***
			(0.000)	(0.000)	(0.000)
Leverage				-0.0007	-0.0007
				(0.0005)	(0.0005)
Dividend Payment					0.0003
					(0.0002)
Observations	497	497	497	497	497
Access to Bond Market	Yes	Yes	Yes	Yes	Yes