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Are the Supervisory Bank Stress Tests Constraining the Supply of Credit to Small Businesses?

May 2017

I.   Introduction

The Clearing House has been providing empirical evidence in a series of research notes and blog posts that indicate that credit availability by banks – especially loans to small businesses – has been significantly curtailed by the new financial regulations and supervisory practices that have been adopted over the past few years, in particular the U.S. stress tests. The Federal Reserve's stress testing framework attempts to measure the ability of banks to withstand a very severe economic downturn. In particular, the macroeconomic supervisory scenarios assume a recession that includes a rise in the unemployment rate that is considerably more severe than the increase observed during the 2007-2009 financial crisis and any post-war U.S. recessions.[1] By more severely stressing unemployment rate changes, the Federal Reserve's scenarios are likely to discourage lending whose performance is especially sensitive to the behavior of the unemployment rate, such as certain types of household lending as well as small business lending. A recent TCH research note shows that stress tests are imposing dramatically higher capital requirements on certain asset classes – most notably, small business loans and residential mortgages – than bank internal models and Basel standardized models.[2] By imposing higher capital requirements on loans to small businesses and mortgage loans, stress tests are likely curtailing credit availability for the types of

borrowers that lack alternative sources of finance.

Based on recent readings of the National Federation of Independent Business (NFIB) survey, only a very small fraction of business owners reported that all of their borrowing needs were not satisfied. This is consistent with the view that the weakness in small business loan growth is driven by lack of demand for such loans and not due to tight lending standards at banks. However, in April of this year the Federal Reserve published its first nationwide survey of small business credit conditions which, in contrast to the NFIB survey, reports widespread evidence of tight credit conditions for small businesses and that credit availability for small businesses is tighter at larger banks. The differences between the NFIB survey and the Fed's small business survey are driven by differences in the composition of respondents, with the survey conducted by the Federal Reserve having a higher concentration of smaller and younger small businesses.[3]

In this research note, we identify the impact of tighter capital requirements on the availability of credit to small businesses by analyzing differences in small business loan growth at banks subject to stress tests versus those that are not. Because smaller banks are exempted from stress tests they can act as a "control" group in assessing the impact of new regulations on the supply of credit. Thus, differences in small business loan growth at large versus smaller banks are attributed to factors

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1   See The Clearing House, 2016 *Federal Reserve's Stress Testing Scenarios* (March 2016), available at https://www.theclearinghouse.org/-/media/action%20line/documents/volume%20vii/20160316%20tch%20research%20note%20ccar.pdf?la=en

2   See The Clearing House, *The Capital Allocation Inherent in the Federal Reserve's Capital Stress Tests* (January 2017), available at www.theclearinghouse.org/~/media/TCH/Documents/TCH%20WEEKLY/2017/20170130_WP_Implicit_Risk_Weights_in_CCAR.pdf.

3   See The Clearing House blog post *New Fed Survey Provides Evidence Supporting TCH Research That Higher Capital Requirements Are Restraining Lending to Small Businesses* (April 2017), available at https://www.theclearinghouse.org/eighteen53-blog/2017/april/17-lending-to-small-business

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driving credit availability at banks. Our results indicate that the U.S. stress tests are constraining the availability of small business loans secured by nonfarm nonresidential (NFNR) properties, which accounts for approximately half of small business loans on banks' books. Moreover, the estimated impact is economically very important. According to the results of the research note's empirical

model, subjecting a bank to the U.S. supervisory stress tests leads to a reduction of more than 4 percentage points in the annual growth rate of its small business loans secured by NFNR properties, which translates to a $2.7 billion decrease in the aggregate holdings of these small business loans each year on average.

II. Data

To study the impact of more stringent capital requirements on small business lending, we use loan data from the Consolidated Reports of Condition and Income (FFIEC 031/041 form) for commercial banks published by the Federal Deposit Insurance Corporation and the Consolidated Financial Statements for Bank Holding Companies (the FR Y-9C form) published by the Federal Reserve to construct an unbalanced panel of banks, covering the period from 2001:Q2 to 2016:Q2. Starting with our initial set of banks, which includes all bank holding companies and all stand-alone commercial banks, we split our sample into two groups: (1) banks subject to the Comprehensive Capital Analysis and Review (CCAR); and (2) banks not required to participate in CCAR. For the non-CCAR sample, we then eliminated banks that have a relatively small share of loans on their books, since these banks likely operate under a very different business model compared to the bank holding companies subject to the supervisory stress tests.

On the Call Reports, a small business loan is defined as a loan with an original amount

of $1M or less. This is not a perfect proxy for a small business loan since some small businesses have borrowed more than $1M at a given point in time and some large businesses have borrowed less than $1M on occasion, but this is how small business loans are defined on the regulatory reports. Additionally, between 2001 and 2010 data on small business loans is only collected from banks once a year (namely at the end of the second quarter of each year). After 2010, data on small business lending is available at a quarterly frequency. To use the full span of data, all of our empirical specifications use data at an annual frequency since data at a quarterly frequency is not available prior to 2010. In terms of the variables used as the dependent variable in our loan growth regressions, the data on small business loans is available across two loan types and three different loan sizes. The two loan types are: (1) loans secured by nonfarm nonresidential properties (NFNR) and also known as small business commercial real estate (CRE) loans; and (2) commercial and industrial (C&I) loans. The three loan sizes are as follows: (1) loans with original amounts less

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than $100K; (2) loans with original amounts greater than $100K through $250K; and (3) loans with original amounts greater than $250K through $1M.

Table 1 contains a few selected summary statistics for small business loans held at CCAR and non-CCAR banks. Banks subject to CCAR account for approximately 35 percent of all small business loans and slightly less than 50 percent of C&I small business loans.[4] The share of small business loans secured by NFNR properties held by CCAR banks is just 23 percent, but it was approximately 29 percent at the end of 2010 as CCAR banks have been reducing their holdings of such loans since the start of CCAR. Interestingly, CCAR banks hold the majority of C&I loans with original amounts of $100K or less which likely includes corporate credit card loans and the unguaranteed portion of loans securitized to the Small Business Administration.

The three panels in Exhibit 1 illustrate the growth rate of small business loans for all the banks in our sample since 2001. Prior to the crisis, small business loans were growing at a solid pace of about 7 percent annually on average. The growth rate of small business loans fell significantly during the 2007-2009 financial crisis but started to recover in 2011, although small business loans were still running off banks' books until the end of 2012. Moreover, the recovery of small business lending at banks has been uneven with C&I small business loans recovering at a faster pace relative to small business loans

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4   The Call Reports likely understate holdings of small business loans by large banks because these banks are more likely to securitize the loans with loan guarantees from the Small Business Administration and only the unguaranteed portion of the loan is reported on the Call Reports.

TABLE 1: HOLDINGS OF SMALL BUSINESS LOANS ACROSS BANK TYPES

|	CCAR BANKS	NON-CCAR BANKS
Share of Small Business Loans (%)	35	65
Loans Secured by Nonfarm Nonresidential Properties (%)	23	77
with original amounts less than $100K (%)	14	86
with original amounts between $100K through $250K (%)	19	81
with original amounts between $250K through $1M (%)	24	76
Commercial and industrial loans (%)	46	54
with original amounts less than $100K (%)	66	34
with original amounts between $100K through $250K (%)	32	68
with original amounts between $250K through $1M (%)	33	67

Note: Data is as of June 30, 2016. The sum of the percentages in each row equals 100.

EXHIBIT 1
SMALL BUSINESS LOANS
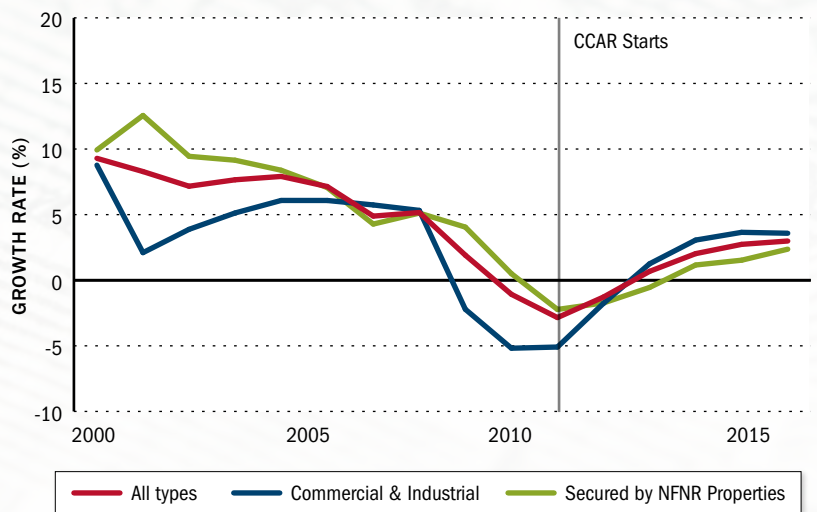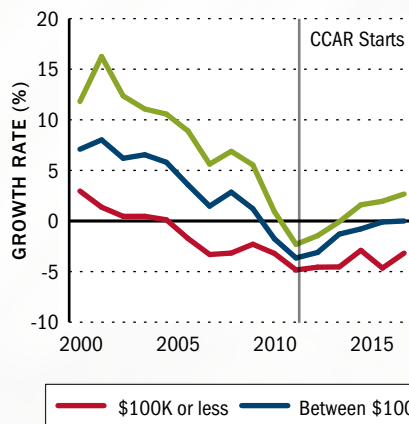
Legend: All types — Commercial & Industrial — Secured by NFNR Properties

SMALL BUSINESS LOANS SECURED BY NONFARM NONRESIDENTIAL PROPERTIES

SMALL BUSINESS LOANS COMMERCIAL & INDUSTRIAL

Legend: $100K or less — Between $100K and $250K — Between $250K and $1M

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secured by NFNR properties. Indeed the growth rate of the smallest of small business loans secured by NFNR properties – shown by the red line in the bottom left panel of Exhibit 1– was still negative at the end of 2016.

III. Descriptive Statistics

To assess the impact of stress testing on the credit availability to small businesses, we start by reporting differences in loan growth between banks subject to CCAR and those that are exempted from stress tests. Because banks that are not required to participate in stress tests face less stringent capital requirements, they can act as a "control" group in assessing the impact of stress tests on the growth rate of small business loans. Namely, this assumption implies that changes in demand for small business loans at banks subject to CCAR and those that are exempted from stress tests are about the same, and therefore differences in loan growth between these two bank groups can be explained by the heightened capital requirements generated by the U.S. stress tests.

Exhibit 2 depicts the median growth rate of small business loans at banks subject to CCAR and those that are exempted from CCAR, before and after the start of annual stress tests in 2011. Specifically, the blue bars in the charts of Exhibit 2 denote the median growth rate of small business loans before the start of CCAR in 2011 and the red bars represent the median growth rate of small business loans post-2011. For all small business
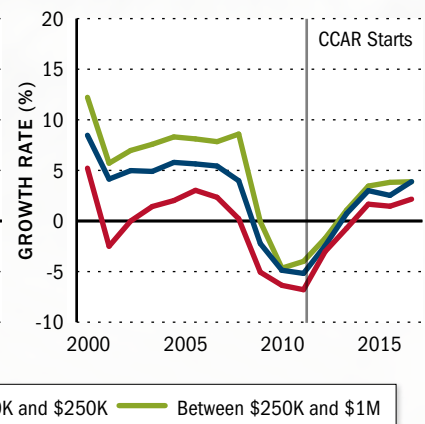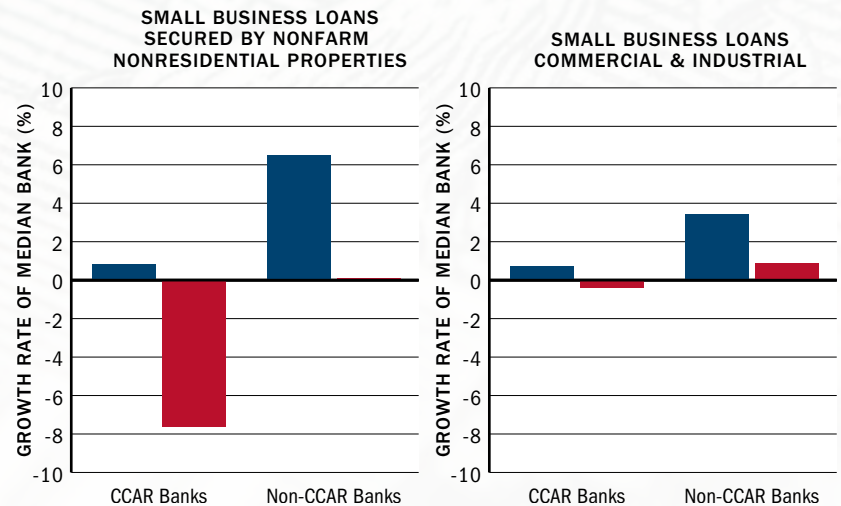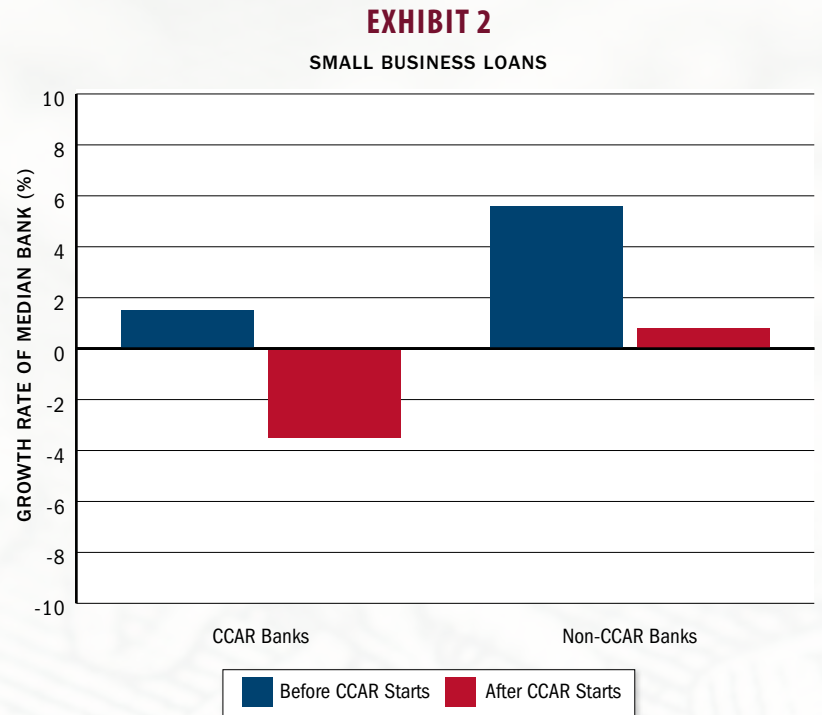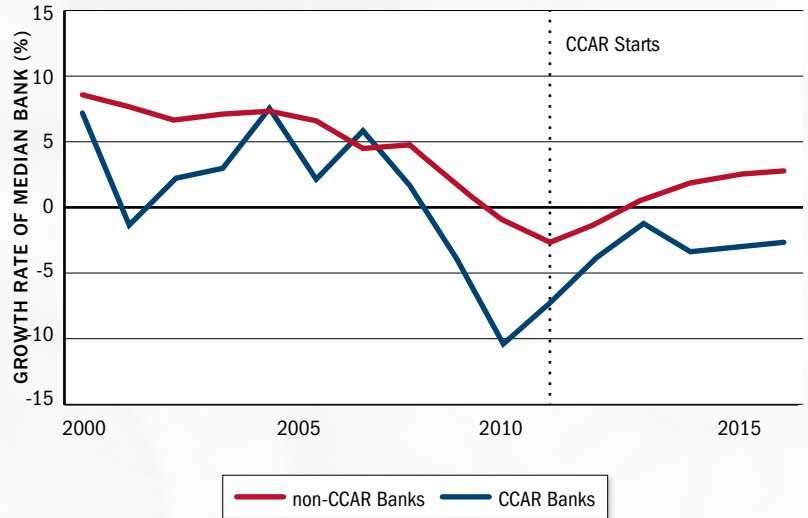
EXHIBIT 2

SMALL BUSINESS LOANS

SMALL BUSINESS LOANS SECURED BY NONFARM NONRESIDENTIAL PROPERTIES

SMALL BUSINESS LOANS COMMERCIAL & INDUSTRIAL

loans – shown in the top panel of Exhibit 2 – the median annual growth rate declined 5.0 percentage points at CCAR banks and 4.7 percentage points at non-CCAR banks after the start of stress tests in 2011. The slightly more pronounced decline in holdings of small business loans at CCAR banks suggests that banks subject to more stringent capital requirements reduced holdings of such loans by more than banks not subject to the stress tests, albeit the aggregate differences appear to be relatively small.

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The difference in the growth rate of small business loans is much more accentuated for small business loans secured by NFNR properties, shown in the bottom left panel of Exhibit 2. In particular, banks subject to CCAR reported 8.4 percentage point decline in the median annual growth rate of small business loans secured by NFNR properties after 2011. In contrast, the decline in the median annual growth rate at non-CCAR banks was 6.4 percentage points, or two percentage points lower than the decline observed at CCAR banks. As shown in the bottom right panel of Exhibit 2, the decline in the median annual growth rate of C&I small business loans was 1 percentage point at CCAR banks post-CCAR, while it was 2.5 percentage points for non-CCAR banks. Thus, CCAR appears to have had a small imprint in the growth rate of such loans at large banks.

IV. Time-series evidence

We followed up the analysis on median growth rates across CCAR and non-CCAR banks by plotting the time-series of the growth rates of small business loans before and post-CCAR for two bank groups: (1) CCAR banks; (2) non-CCAR banks. Exhibit 3 shows the median growth rate on small business loans during the period from 2001 to 2016, based on annual Call Report data. The growth rate of small business loans was quite robust at both the CCAR and non-CCAR banks prior to the start of the 2007-2009 financial crisis. During the crisis, it fell sharply at the CCAR banks, likely reflecting the fact that large banks

EXHIBIT 3
SMALL BUSINESS LOANS
ALL LOAN TYPES
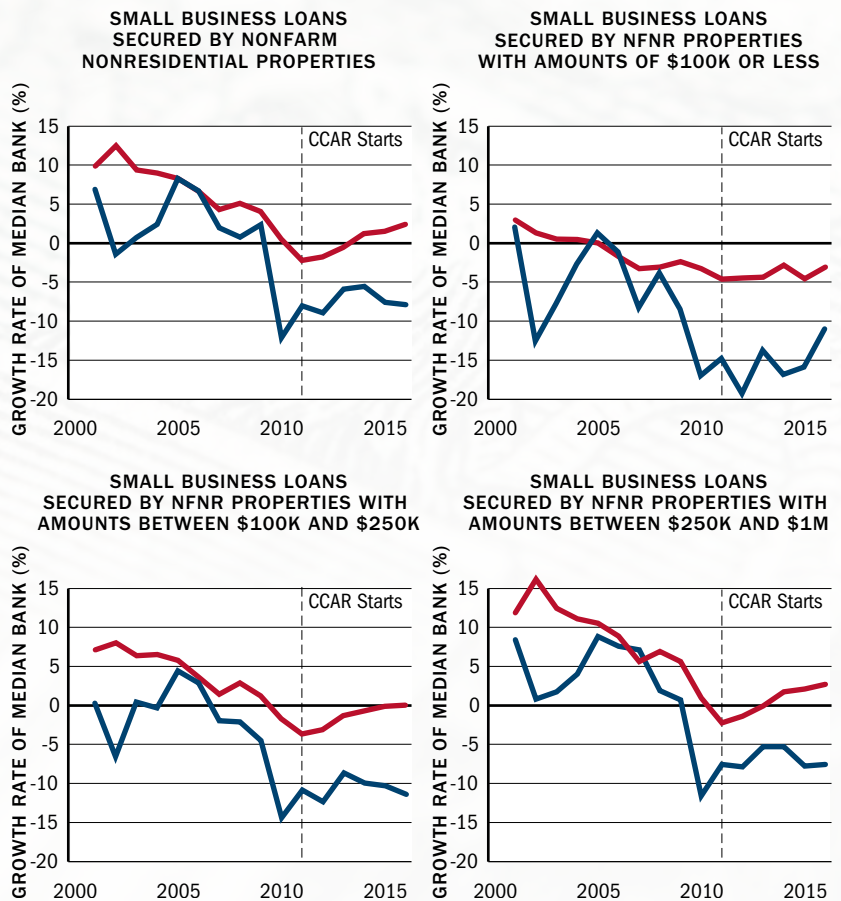
experienced the steepest capital shortfalls that culminated with the failure of Lehman Brothers at the end of 2008. The growth of small business loans started to recover at the CCAR banks prior to 2011, which is denoted by the vertical line in the top panel of Exhibit 3. Despite the recovery, small business loans on the balance sheet of

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CCAR banks continued to exhibit negative growth rates as shown by the growth rate of -2.8 percent in 2016, while small business loans have been growing at non-CCAR banks since 2013.

As shown in the lower panels of Exhibit 3, the run-off in small business loans at CCAR banks is driven by the behavior of small business loans secured by NFNR properties. Although the sharp decline in the growth rate of small business loans occurred at the onset of the past financial crisis, the recovery of small business CRE loans never occurred at CCAR banks in the post-crisis period. Across all small business loan sizes, small business CRE loans have continued to run-off at CCAR banks, while they have generally exhibited positive growth rates at non-CCAR banks.

V. Econometric Methodology

This section describes the econometric methodology. We investigate the impact of CCAR in banks' holdings of small business loans using panel regression models based on annual data from 2001 to 2016 for the set of more than 8,000 unique banks included in our empirical analysis. The empirical strategy studies holdings of small business loans before and after the introduction of CCAR and examines the change in loan growth across banks depending on whether the banks are required to participate in the U.S. stress tests. The visual evidence presented in the previous section suggests that CCAR is having an impact on banks' holding of small business loans, particularly those secured by NFNR properties.

The introduction of CCAR is represented with a dummy variable defined as

$$CCAR_t = \begin{cases} 1, & \text{if } t \geq 2011 \\ 0, & \text{otherwise.} \end{cases}$$

The objective is to quantify the impact of CCAR on the growth rate of small business loans, for the two loan types and three loan sizes defined earlier. The introduction of stress tests is expected to impact only the banks that are required to participate in the stress tests, represented with a bank-specific dummy variable, $CCAR\ Bank_{it}$, which takes the value of 1 if bank i participated in CCAR in year t and 0 otherwise. The impact of CCAR on the growth of small business loans is identified using the coefficient associated with the variable $CCAR_t \times CCAR\ Bank_{it}$, the interaction between a bank being required to participate in CCAR after the start of annual stress tests. In addition, we have also included several variables from the Call Reports that may affect the willingness of a bank to hold small business loans. In particular, in our main specification we included measures of bank profitability, capital, bank risk, funding costs and the share of noninterest income in total revenues (listed under the vector "CALL" below). The set of macroeconomic and

TABLE 2: SUMMARY STATISTICS OF SELECTED BANK CHARACTERISTICS

VARIABLES	CCAR BANKS							NON-CCAR BANKS						
	#OBS	AVERAGE	10TH	25TH	MEDIAN	75TH	90TH	STANDARD DEVIATION	#OBS	AVERAGE	10TH	25TH	MEDIAN	75TH	90TH	STANDARD DEVIATION
Growth rate of loans secured by NFNR with orginal amounts less than $100K (%)	204	-8.5	-25.2	-17.4	-9.2	-0.5	9.6	14.3	52829	-1.6	-24.8	-13.6	-2.4	10.0	22.7	17.5
Growth rate of loans secured by NFNR with original amounts of more than $100K through $250K (%)	224	-5.1	-19.0	-13.3	-5.2	0.7	9.1	12.6	56294	1.0	-20.6	-9.8	0.3	12.0	23.9	16.7
Growth rate of loans secured by NFNR with original amounts of more than $250K through $1M (%)	231	-1.0	-15.0	-8.4	-1.4	4.8	14.8	11.8	53611	3.0	-18.6	-7.6	2.6	14.5	25.9	16.7
Growth rate of C&I loans with original amounts less than $100K (%)	216	0.9	-16.4	-8.7	0.0	10.1	21.4	15.2	58194	-0.5	-22.9	-11.8	-0.6	10.6	21.9	16.8
Growth rate of C&I loans with original amounts of more than $100K through $250K (%)	225	-0.6	-17.9	-8.1	-1.1	7.2	17.4	13.7	51711	1.0	-25.0	-12.8	1.0	15.0	27.2	19.0
Growth rate of C&I loans with original amounts of more than $250K through $1M (%)	228	-0.2	-15.3	-8.4	0.0	5.7	17.7	13.1	45988	1.5	-25.1	-12.5	1.6	15.9	27.9	19.3
Total Assets ($ billions)	243	482.6	51.4	66.2	149.9	419.1	1851.9	696.0	68715	0.8	0.0	0.1	0.2	0.3	0.8	7.8
Excess capital (%)	243	2.4	0.6	1.3	1.9	3.2	4.9	1.9	68715	6.0	1.0	2.4	4.7	8.0	12.5	5.2
Return on equity (%)	243	11.9	3.6	7.2	10.9	15.7	19.5	12.0	68714	8.1	0.6	5.3	9.2	13.4	18.4	16.2
Return on assets (%)	243	1.2	0.3	0.8	1.1	1.4	1.7	1.2	45471	0.9	0.0	0.6	1.0	1.4	1.8	1.3
Bank risk (%)	243	79.1	59.3	70.5	79.6	87.7	98.1	15.4	68715	69.7	53.2	61.7	70.5	78.3	84.6	12.4
Funding costs (%)	243	1.3	0.1	0.2	0.9	1.9	2.9	1.4	68714	1.6	0.3	0.6	1.4	2.3	3.2	1.1
Share of noninterest income (%)	243	50.2	27.9	36.0	43.9	55.0	78.2	25.8	68714	16.5	5.6	9.6	14.7	21.0	28.7	54.9

Note: Sample period is 2001:Q2 - 2016:Q2 (yearly observations; small business loans are reported annually on call reports until 2009). Number of unique banks = 8347, T = 16. See the appendix for a definition of the variables used in the analysis.

financial variables used in the regression analysis below includes the following ten quarterly series ("MACRO"): (1) real gross domestic product; (2) unemployment rate; (3) real disposable income; (4) commercial real estate price index; (5) the CoreLogic house price index; (6) Dow Jones total stock market index; (7) 3-month Treasury rate; (8) 10-year Treasury yield; (9) 10-year yield on BBB-rated corporate bonds; (10) the Chicago Board Options Exchange market volatility index. Each model also includes a fixed effect ("α^i") to control for unobserved bank characteristics that remained constant over time and may correlate with the explanatory variables.

Let i=1,...,N and t=1,...,T index the cross-sectional and time-series dimensions of the panel, respectively. In particular, we consider the following fixed effects panel regression specification:

$$\Delta L_{it} = \alpha_i + \beta_0\, CCAR_t + \beta_1\, CCAR_t \times CCAR\, Bank_{it} + \beta_c'\, CALL_{it-1} + \beta_M'\, MACRO_{it} + \epsilon_{it}$$

In the context of our model, ΔL_{it} could denote, for example, the growth rate of loans secured by NFNR properties with original amounts less than $100K, expressed in percent terms.

Table 2 contains selected summary statistics for

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the bank-specific variables used in the empirical analysis below, separately for the CCAR bank and non-CCAR bank samples. On average, holdings of small business loans on the books' of CCAR banks have contracted, with the exception of C&I loans with original amounts less than $100K. The opposite is true for non-CCAR banks. In addition, CCAR banks have a lower amount of capital above regulatory requirements, are more profitable, have a higher ratio of risk-weighted assets to total assets, slightly lower funding costs and a higher share of noninterest income to revenues.

Table 3 presents the results in which the dependent variable is the annual growth rate of small business loans secured by NFNR properties. According to the entries on the first two rows of Table 3, loan growth has been lower in the post-CCAR period, and significantly more so at banks subject to CCAR. The reduction in loan growth of small business CRE loans is slightly statistically stronger for loans with original amounts of more than $250K through $1M, followed by loans with original amounts less than $100K. In addition, the effect is economically very important. For instance, in specification (14) which includes both bank-specific and macroeconomic controls, subjecting a bank to participate in CCAR would reduce small business CRE loan growth by more than 4 percentage points on an annual basis.

The coefficients on the remaining bank-specific controls have the economically intuitive signs and are almost always statistically significant at conventional levels. The coefficient on excess capital is greater than zero, consistent with the fact that banks with higher levels of capital above minimum requirements are more willing to lend. Similarly, more profitable banks, as

evidenced by higher return-on-equity and banks' with a lower ratio of risk-weighted assets to total assets, are also associated with a higher growth rate of small business CRE loans.

Table 4 presents the results for the growth rate of small commercial and industrial loans. According to the entries of the first row, the growth rate of small C&I loans declines post-2011, but with the exception of the smallest C&I loans, there isn't a further decline in loan growth at CCAR banks as shown in the second row of the table across most of the 15 panel regressions. While the majority of coefficients have a negative sign, they aren't statistically different from zero at conventional levels. As was the case of small business CRE loans, banks with a larger amount of capital above regulatory minimums and that are more profitable exhibit higher growth rates of small C&I loans on average.

It would be important to have a better understanding of causes underlying the differences on the impact of supervisory stress tests on the supply of credit to small businesses across the two loan types. As pointed out previously, the definition of small business loans on the Call Reports is only proxy for loans to a small business. In particular, a small business loan is defined as a loan with an original amount of $1M or less on the Call Reports. This is not a perfect proxy for a small business loan since some large businesses may have borrowed less than $1M and such loans would be misclassified as a small business loan. It seems plausible to assume that this misclassification issue is more prevalent for C&I loans, which likely includes larger and more mature businesses. This could explain the discrepancy in our results between small business CRE and C&I loans.

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VI. Concluding Remarks

Small businesses perform a very important role in the U.S. economy. In particular, they account for more than 40 percent of private nonfarm gross domestic product, and the formation of new businesses contribute substantially to the creation of new jobs. This note examines the impact of supervisory stress tests on the availability of bank loans to small businesses. This is an important issue since large banks originate about half of small business loans by dollar amount and substantially more than half by number.[5]

We find that stress tests accentuated the decline in holdings of small business loans secured by NFNR properties at banks subject to CCAR after 2011. These loans account for about half of small business loans held by banks. Thus, by curtailing credit to this key sector of the U.S. economy, stress tests may be having an adverse impact on economic growth. Lastly, these findings have implications for the design of supervisory stress test scenarios and lead us to believe the Federal Reserve should reduce the severity of the change in the unemployment rate used in the severely adverse scenario.

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5   See The Clearing House blogpost *Myth Versus Reality on Small Business Lending* (March 2017), available at https://www.theclearinghouse.org/eighteen53-blog/2017/march/24-small-business-lending

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TABLE 3: REGRESSION ESTIMATES FOR SMALL BUSINESS LOANS SECURED BY NONFARM NONRESIDENTIAL PROPERTIES

EXPLANATORY VARIABLE	LOANS SECURED BY NONFARM NONRESIDENTIAL PROPERTIES WITH ORIGINAL AMOUNTS OF $100K OR LESS					LOANS SECURED BY NONFARM NONRESIDENTIAL PROPERTIES WITH ORIGINAL AMOUNTS OF MORE THAN $100K THROUGH $250K					LOANS SECURED BY NONFARM NONRESIDENTIAL PROPERTIES WITH ORIGINAL AMOUNTS OF MORE THAN $250K THROUGH $1M				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
After CCAR	-2.45*** (0.180)	-2.37*** (0.196)	-2.43*** (0.293)	-2.18*** (0.794)	-2.49*** (0.310)	-3.50*** (0.166)	-3.51*** (0.182)	-3.89*** (0.270)	-4.44*** (0.716)	-4.89*** (0.221)	-4.54*** (0.169)	-4.84*** (0.186)	-4.97*** (0.283)	-4.44*** (0.712)	-4.56*** (0.492)
After CCAR x CCAR Bank	-5.28*** (1.881)	-4.74** (2.053)	-4.64** (2.020)	-4.19** (1.997)	-4.23** (1.997)	-3.35* (1.754)	-3.25* (1.804)	-3.19* (1.785)	-2.54 (1.743)	-2.55 (1.757)	-4.75*** (1.477)	-4.66*** (1.422)	-4.72*** (1.367)	-4.06*** (1.33)	-4.08*** (1.342)
Excess Capital$_{t-1}$	-	0.071* (0.040)	0.036 (0.044)	0.05 (0.045)	-	-	0.178*** (0.038)	0.108*** (0.042)	0.118*** (0.042)	0.102*** (0.038)	-	0.255*** (0.040)	0.106** (0.044)	0.106** (0.044)	0.105*** (0.044)
Return-on-equity$_{t-1}$	-	-	0.042*** (0.008)	0.035*** (0.008)	0.034*** (0.008)	-	-	0.071*** (0.008)	0.050*** (0.008)	0.050*** (0.008)	-	-	0.096*** (0.008)	0.073*** (0.008)	0.073*** (0.008)
Bank Risk$_{t-1}$	-	-	-0.020 (0.017)	0.01 (0.018)	-	-	-	-0.038** (0.016)	0.014 (0.016)	-	-	-	-0.116*** (0.016)	-0.078*** (0.017)	-0.078*** (0.017)
Funding Costs$_{t-1}$	-	-	-0.083 (0.138)	0.25 (0.229)	-	-	-	-0.302** (0.129)	-0.194 (0.209)	-	-	-	-0.027 (0.135)	0.047 (0.216)	-
Share of Noninterest Income$_{t-1}$	-	-	0.001 (0.002)	0.001 (0.002)	-	-	-	-0.001 (0.001)	-0.001 (0.001)	-	-	-	0.001 (0.002)	0.001 (0.002)	-
Bank Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Macroeconomic Controls	No	No	No	Yes	Yes	No	No	No	Yes	Yes	No	No	No	Yes	Yes
# of Observations	53,033	46,136	46,135	46,135	46,135	56,518	49,241	49,240	49,240	49,240	53,842	47,288	47,287	47,287	47,287
Within R^2	0.45	0.42	0.51	0.71	0.69	1.00	1.00	1.30	1.50	2.00	1.70	1.90	2.60	3.40	3.40

Note: Sample period: 2001:Q2 - 2016:Q2; data is annual. The dependent variable is the growth rate of small business loans secured by nonfarm nonresidential properties in year t.

TABLE 4: REGRESSION ESTIMATES FOR SMALL COMMERCIAL & INDUSTRIAL LOANS

EXPLANATORY VARIABLE	COMMERCIAL & INDUSTRIAL LOANS WITH ORIGINAL AMOUNTS OF $100K OR LESS					COMMERCIAL & INDUSTRIAL LOANS WITH ORIGINAL AMOUNTS OF MORE THAN $100K THROUGH $250K					COMMERCIAL & INDUSTRIAL LOANS WITH ORIGINAL AMOUNTS OF MORE THAN $250K THROUGH $1M				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
After CCAR	-0.90*** (0.164)	-0.72*** (0.181)	-2.22*** (0.270)	-1.57*** (0.739)	-1.38*** (0.498)	-1.56*** (0.196)	-1.52*** (0.216)	-2.22*** (0.326)	-1.81** (0.889)	-2.92*** (0.259)	-2.13*** (0.212)	-2.07*** (0.233)	-1.88*** (0.346)	-1.73* (0.936)	-2.48*** (0.510)
After CCAR x CCAR Bank	-3.51* (2.07)	-3.75* (1.95)	-3.61* (2.008)	-3.08 (1.966)	-3.16 (1.959)	-1.28 (2.700)	-1.48 (2.839)	-1.17 (2.751)	-0.32 (2.720)	-0.44 (2.740)	1.16 (2.046)	0.95 (2.123)	1.30 (1.903)	1.94 (1.866)	2.02 (1.905)
Excess Capital$_{t-1}$	-	0.353*** (0.037)	0.295*** (0.041)	0.252*** (0.041)	0.229*** (0.037)	-	0.354*** (0.045)	0.285*** (0.049)	0.266*** (0.049)	0.244*** (0.044)	-	0.303*** (0.046)	0.217*** (0.051)	0.183*** (0.051)	0.208*** (0.046)
Return-on-equity$_{t-1}$	-	-	0.089*** (0.010)	0.055*** (0.009)	0.056*** (0.009)	-	-	0.103*** (0.009)	0.071*** (0.008)	0.071*** (0.008)	-	-	0.106*** (0.011)	0.073*** (0.010)	0.073*** (0.010)
Bank Risk$_{t-1}$	-	-	-0.016 (0.016)	0.023 (0.0164)	-	-	-	-0.030 (0.018)	0.020 (0.019)	-	-	-	-0.0525 (0.161)	-0.024 (0.020)	-
Funding Costs$_{t-1}$	-	-	-1.060 (0.126)	-0.054 (0.213)	-	-	-	-0.559*** (0.152)-	0.230 (0.253)	-	-	-	0.040 (0.161)	0.589** (0.266)	0.402* (0.232)
Share of Noninterest Income$_{t-1}$	-	-	-0.003** (0.001)	-0.003** (0.001)	-0.003** (0.001)	-	-	0.001 (0.001)	0.001 (0.001)	-	-	-	0.004 (0.003)	0.005 (0.003)	-
Bank Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Macroeconomic Controls	No	No	No	Yes	Yes	No	No	No	Yes	Yes	No	No	No	Yes	Yes
# of Observations	58,410	50,644	50,643	50,643	50,643	51,936	45,203	45,203	45,203	45,203	46,216	40,440	40,440	40,440	40,440
Within R^2	0.07	0.29	0.91	2.34	2.33	0.15	0.28	0.76	1.65	1.64	0.27	0.32	0.83	1.68	1.66

Note: Sample period: 2001:Q2 - 2016:Q2; data is annual. The dependent variable is the growth rate of small commercial and industrial loans in year t.

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