Stress Test Failures and Corporate Mergers and Acquisitions

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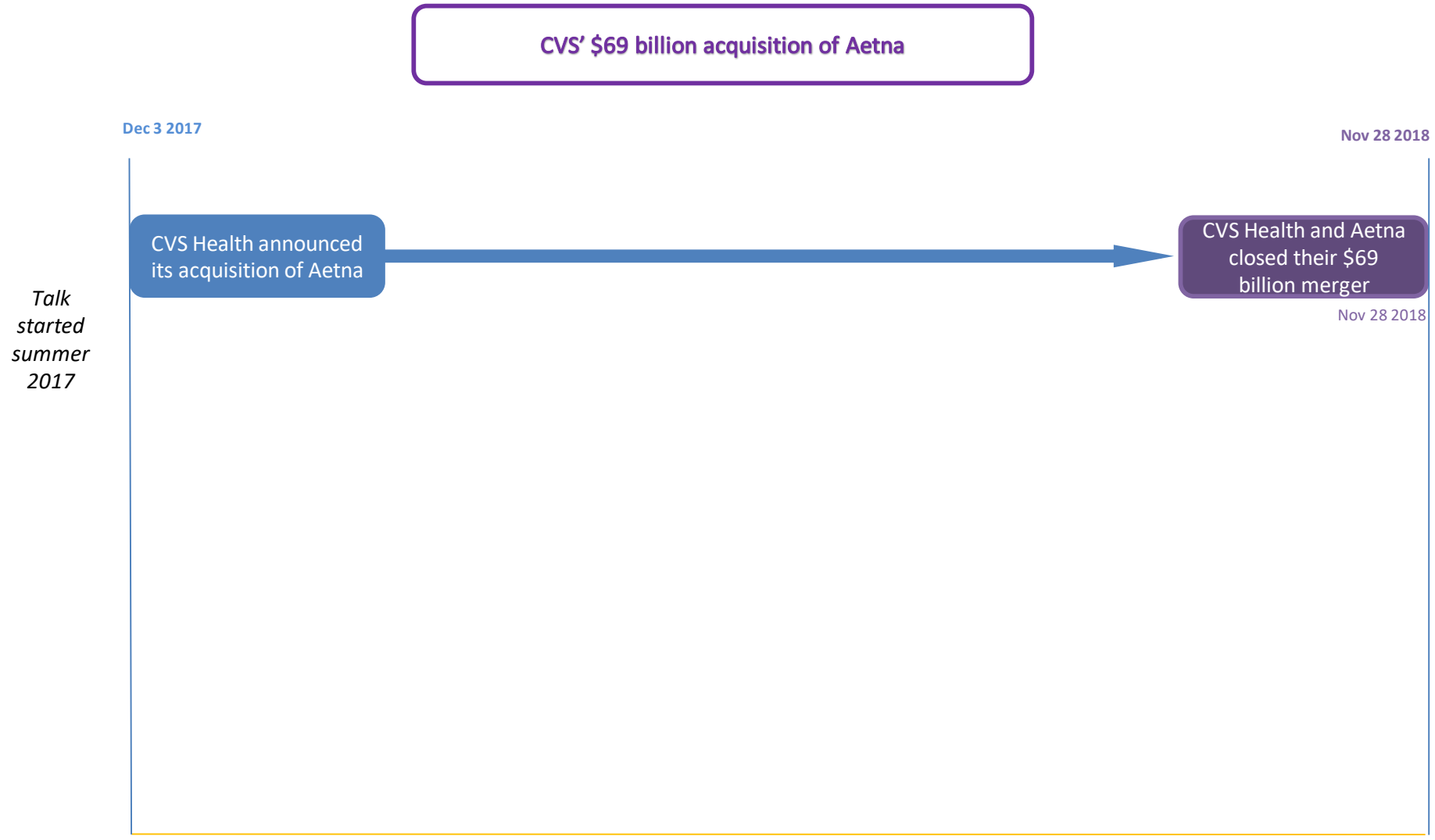
Motivation

- In the wake of GFC, supervisory bank stress tests were introduced as a major innovation and a forward-looking supervisory tool
  - The goal is to ensure that banks have enough capital to survive adverse economic shocks
  - Failing a stress test leads to constraints on a bank's capital distribution plan, and also causes potential reputational damage
  - The stress tests have been shown to be effective in improving the financial resilience of banks and enhancing their risk management practices
  - Questions of whether and how the real sector were affected remain largely unanswered

Motivation

- In this paper, we study the mergers and acquisitions (M&A) activity of the corporate borrowers of banks that failed stress tests
- It provides novel, empirical evidence on the impact of failing a stress test on the real economy from an M&A perspective
  - M&A is one of the largest and riskiest types of corporate investment. Financing corporate M&A often requires significant financial commitment from banks in the form of large syndicated loans
  - Given the sheer size of M&A-related loans, and the level of riskiness involved, having these loans on banks' balance sheet has substantial implications on the stress tests results.
  - Different from other types of corporate investment whose quality is typically unobservable, the quality of M&A is measureable

M&A: one of the largest and riskiest types of corporate investment



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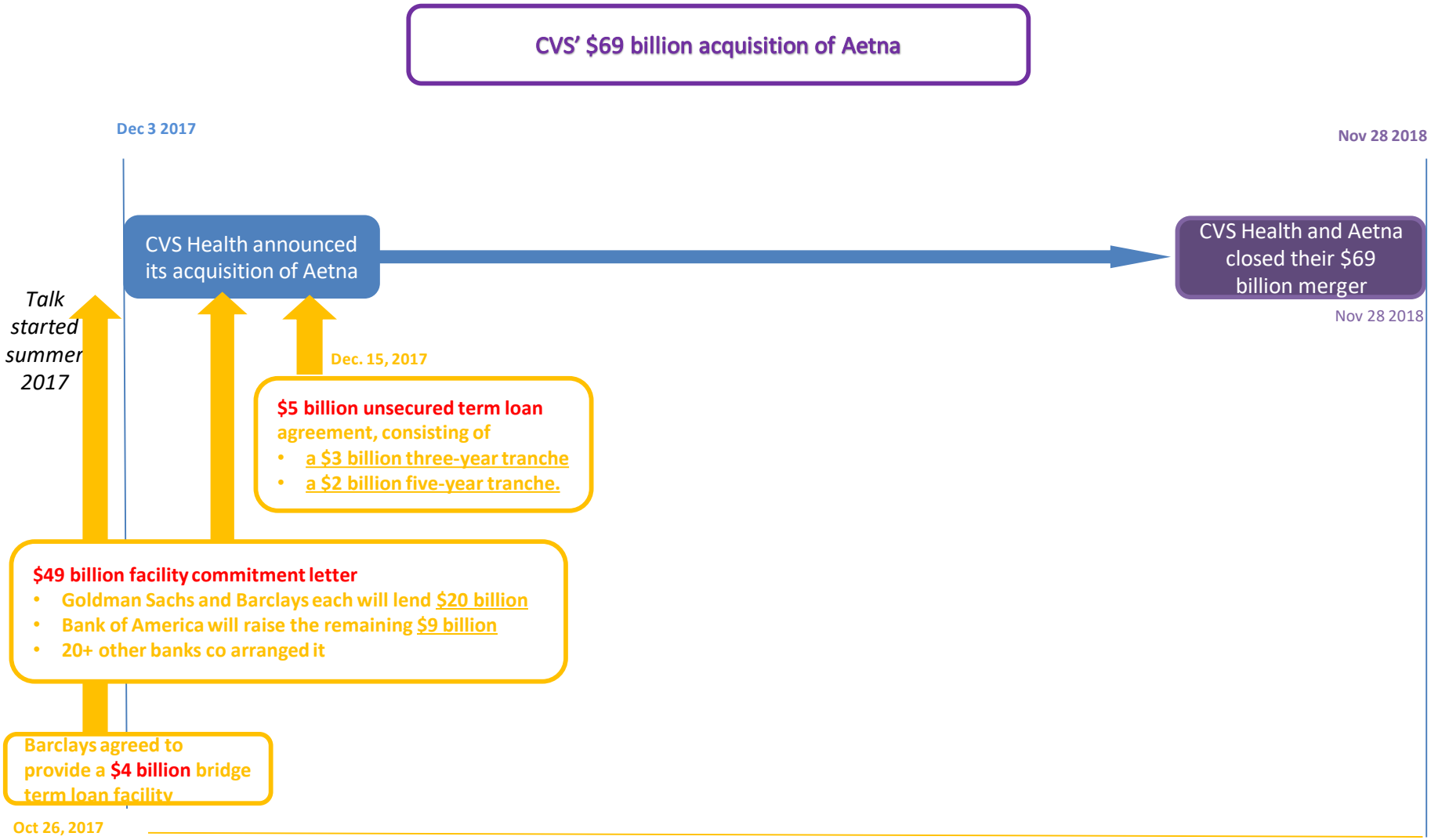

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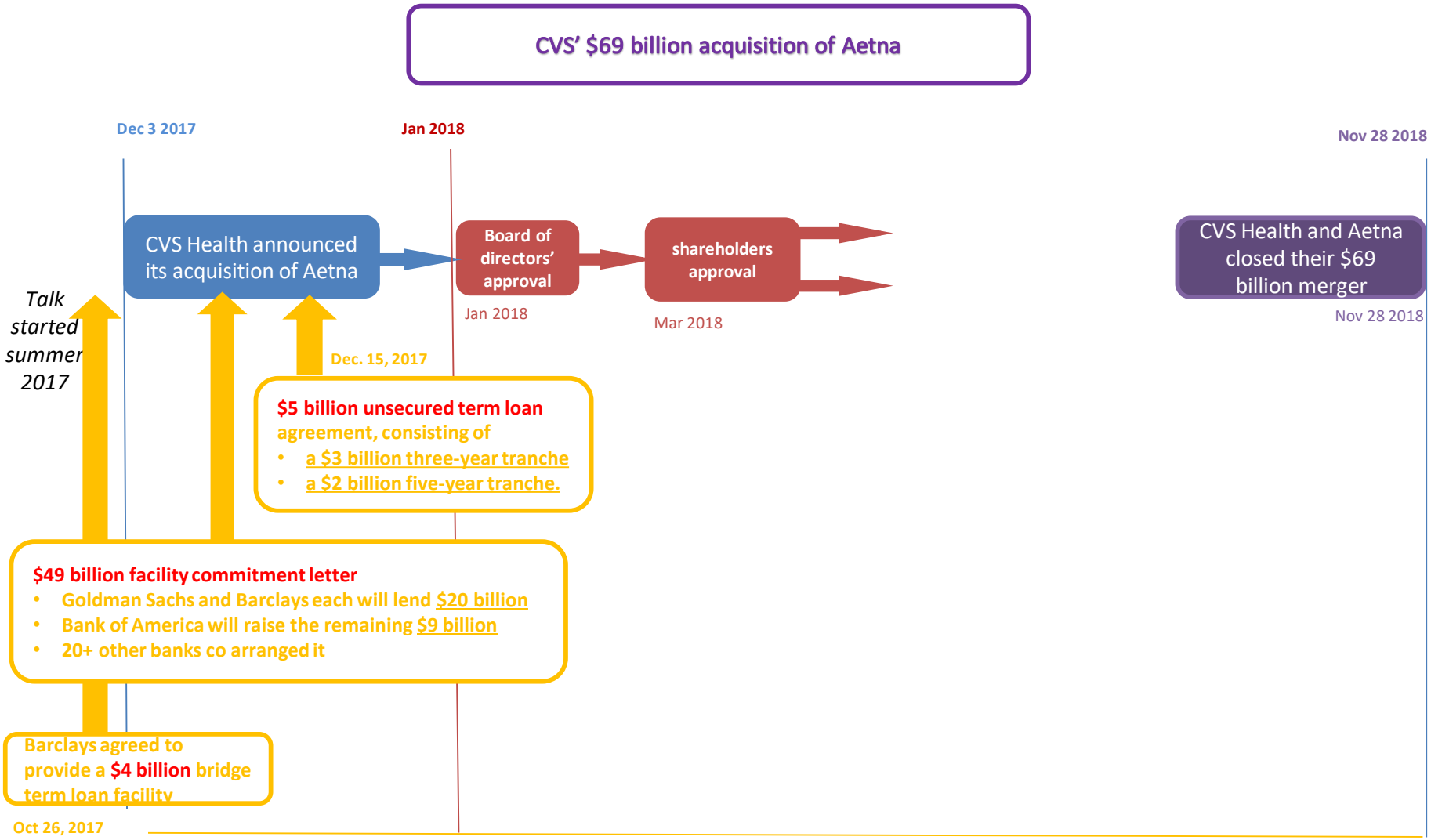
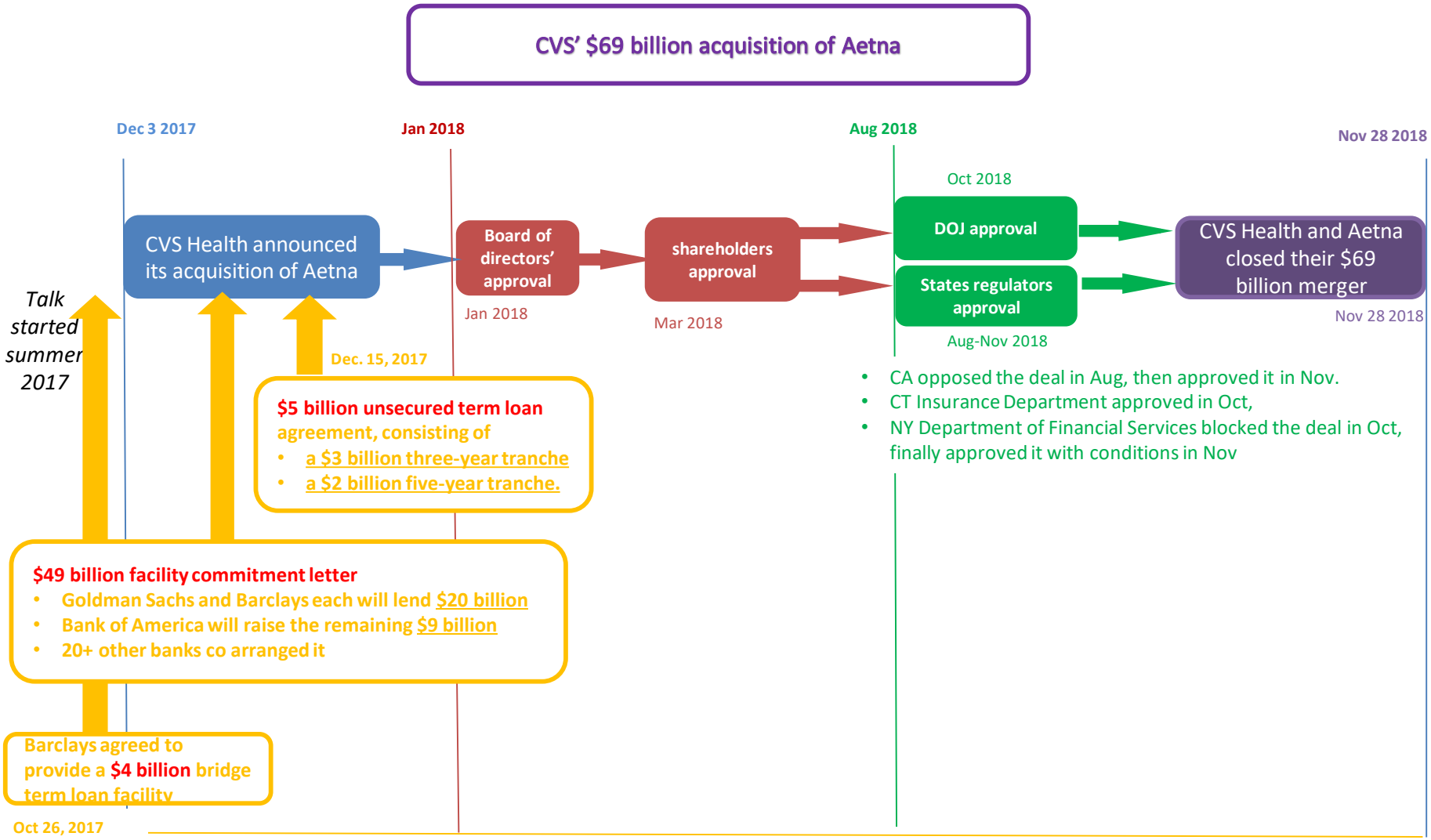


A majority of executives surveyed by PwC (58 percent) said health care mergers can be more difficult than expected

M&A: one of the largest and riskiest types of corporate investment



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M&A: one of the largest and riskiest types of corporate investment

- Holding larger and risky loans makes it more challenging for banks to satisfy the capital requirement in order to pass the Federal Reserve's stress tests
  - Higher Balance and risk-weighted assets,
  - higher projected losses → lower regulatory capital

Table 1. Applicable capital ratios and calculations for firms in the 2020 Dodd-Frank Act stress tests

Capital ratio	Calculation, by aspect of ratio	
	Capital in numerator	Denominator
Common equity tier 1 ratio	Definition of regulatory capital	Standardized approach RWAs

$$Loss(t) = PD(t) * LGD(t) * EAD(t).$$

$$EAD(i) = OB(i) + LEQ * \left(C(i) - OB(i)\right),$$

Motivation

- Given the significant adverse shock that failing a stress test constitutes to a bank, the failure bank will need to restructure its lending portfolio and enhance the screening on financing projects with significant uncertainty
  - e.g., Lambertini and Mukherjee, 2016; Acharya, Berger, and Roman, 2018; Pierret and Steri, 2019; Cortés et al. 2020; Fernandes, Igan, and Pinheiro, 2020
  - Becher, Griffin, and Nini (2018) provided direct evidence of banks' imposing restrictions to prevent M&A investments that destroy firm value.
- After failing a stress test, do banks use their control rights to prevent M&A investment expected to destroy firm value?

Hypotheses

Q: After failing a stress test, do banks use their control rights to prevent M&A investment expected to destroy firm value?

- We conjecture that under the tightened screening imposed by the stress test failure banks:
- *Borrower firms of failed banks are less likely to engage in large M&A deals that are value-destroying,*
- *They instead engage in a smaller number of M&A deals of higher quality*

Our Empirical Setting

- We employ a stacked difference-in-differences (DID) regression framework to study the impact of bank stress test failures on borrower M&A activity
  - Similar to Gormly and Matsa (2011), for each stress test event, we examine three quarters before to three quarters after the test result release quarter to form an event subsample. We then stack all stress test event subsamples together for our DID analysis
- We look at corporate borrowers of banks subjected to the SCAP and/or CCAR stress tests
  - We use banks' failing stress tests to identify periods of heightened creditor control and monitoring
  - We classify a firm into the treatment group if at least one of the firm's relationship banks failed the focal stress test
  - We look at: the amount of deals, quality of deals, covenant usage, etc.

Contribution

- This study contributes to the growing literature on the consequences of stress tests
  - Acharya, Berger, and Roman, 2018; Pierret and Steri, 2019; Cappelletti et al., 2019; Calem, Correa, and Lee, 2019; Lambertini and Mukherjee, 2016; Cortés et al. 2020; Fernandes, Igan, and Pinheiro, 2020; Cortes et al., 2020; Berrospide and Edge, 2019; Gropp, Mosk, Ongena, and Wix, 2019
  - We contribute to this literature by documenting the positive spillover of bank failing stress test from corporate borrowers' M&A perspective
- Our study also contributes to the voluminous M&A literature.
  - The literature suggests that M&A on average does not create shareholder value for acquirers
  - e.g., Andrade, Mitchell, and Stafford, 2001, and Betton, Eckbo, and Thorburn, 2008, for reviews). Indeed, they may even destroy a significant amount of shareholder value (e.g., Moeller, Schlingemann, and Stulz, 2005)
  - The only paper examining M&A in the stress testing context is Bindal et al. (2020)
  - Focusing on corporate borrowers, we provide new empirical evidence demonstrating the potentially causal impact of bank stress test failure on borrower M&A activity

An Overview of Banks that Failed SCAP and CCAR Stress Tests

Bank names	2009 SCAP	CCAR 2012	CCAR 2013	CCAR 2014	CCAR 2015	CCAR 2016
Bank of America	†				‡	
BB&T Corporation			†			
Citigroup Inc.	†	†		†		
Fifth Third Bancorp	†					
Keycorp	†					
MetLife, Inc.		†				
Morgan Stanley	†		‡			
Regions Financial	†					
SunTrust Banks, Inc.	†	†				
The Goldman Sachs Group, Inc.			‡			
The PNC Financial Services Group, Inc.	†					
Ally Financial Inc.	†	†	†			
Deutsche Bank Trust					†	†
HSBC North America Holdings Inc.				†		
RBS Citizens Financial Group, Inc.				†		
Santander Holdings USA, Inc.				†	†	†
Wells Fargo & Company.	†					
Zions Bancorporation				†		

†Objection to capital plan ‡Conditional non-objection to capital plan

The sample

- Our sample includes quarterly data of stacked event subsamples of six rounds of stress tests that covers a period from 2008:Q3 to 2017:Q2, and consists of 2,539 unique firms
- Data source: Compustat, SDC Platinum, LPC Dealscan, BoardEx and Thomson-Reuters 13F databases.

Variable	Mean	Median	Std. Dev.	P25	P75	N
Deal Value (in million$)	34.526	0.000	845.1	0	0	45057
Deal Count	0.046	0.000	0.228	0	0	45057
CAR (-1,1)	1.837	0.718	13.945	-1.434	3.864	1847
MAR (-1,1)	1.958	0.878	13.914	-1.294	4.012	1867
Number of Financial Covenants	0.878	1	0.939	0	2	32636
Firm Characteristics						
Firm Size (in billion$)	10.034	1.424	67.624	0.494	4.327	44959
Market-To-Book	3.208	1.843	5.371	1.159	3.137	44286
Sales_Growth	1.024	1.013	0.189	0.949	1.082	45006
Leverage	0.276	0.221	0.238	0.081	0.420	44959
Past_Stock_Return	3.438	2.422	30.432	-10.280	14.754	44946
ROA	0.005	0.009	0.036	0.000	0.019	45037
ROE	0.007	0.023	0.134	0.002	0.044	43140
Bank Characteristics						
Bank Size (in trillion $)	1.369	1.422	0.698	0.853	2.053	45057
Bank Loan Loss Provision	2.306	1.450	2.450	0.722	2.722	45057
Bank Tier-1 Common Equity Ratio	0.080	0.085	0.025	0.065	0.099	45057
Bank Cash Holding	0.015	0.015	0.005	0.012	0.017	45057

The Impact of Bank Stress Test Failure on Firms' M&A Activity

- Borrowers that were exposed to a bank stress test failure significantly reduced their M&A activity in the quarters subsequent to the test result release

Dep. Var.:	Deal Value			Deal count		
	(1)	(2)	(3)	(4)	(5)	(6)
Treated × Post	-0.058**	-0.060**	-0.059**	-0.007**	-0.007**	-0.007**
	(0.025)	(0.026)	(0.026)	(0.003)	(0.003)	(0.003)
Treated	0.028	0.028	0.021	0.003	0.003	0.002
	(0.018)	(0.018)	(0.019)	(0.003)	(0.003)	(0.003)
Post	0.002	0.003	0.000	0.000	0.000	-0.000
	(0.009)	(0.009)	(0.010)	(0.001)	(0.001)	(0.001)
Firm Controls						
Firm Size$_{t-1}$		-0.029	-0.030		-0.003	-0.004
		(0.024)	(0.024)		(0.004)	(0.004)
Market-To-Book $_{t-1}$		0.004**	0.004**		0.001**	0.001**
		(0.002)	(0.002)		(0.000)	(0.000)
Sales_Growth $_{t-1}$		-0.014	-0.014		-0.003	-0.003
		(0.033)	(0.033)		(0.005)	(0.005)
Leverage $_{t-1}$		-0.725***	-0.731***		-0.109***	-0.111***
		(0.090)	(0.090)		(0.014)	(0.014)
Past_Stock_Return $_{t-1}$		-0.000	-0.000		-0.000	-0.000
		(0.000)	(0.000)		(0.000)	(0.000)
Bank Controls						
Bank Size $_{t-1}$			-0.001			-0.000
			(0.005)			(0.001)
Bank Loan Loss Provision $_{t-1}$			-0.008*			-0.001*
			(0.004)			(0.001)
Bank Tier-1 Common Equity Ratio $_{t-1}$			-0.453			-0.082
			(0.885)			(0.125)
Bank Cash Holding $_{t-1}$			4.259			0.827**
			(2.778)			(0.417)
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	38,547	37,836	37,836	38,547	37,836	37,836
Adjusted R^2	0.076	0.081	0.081	0.096	0.101	0.101

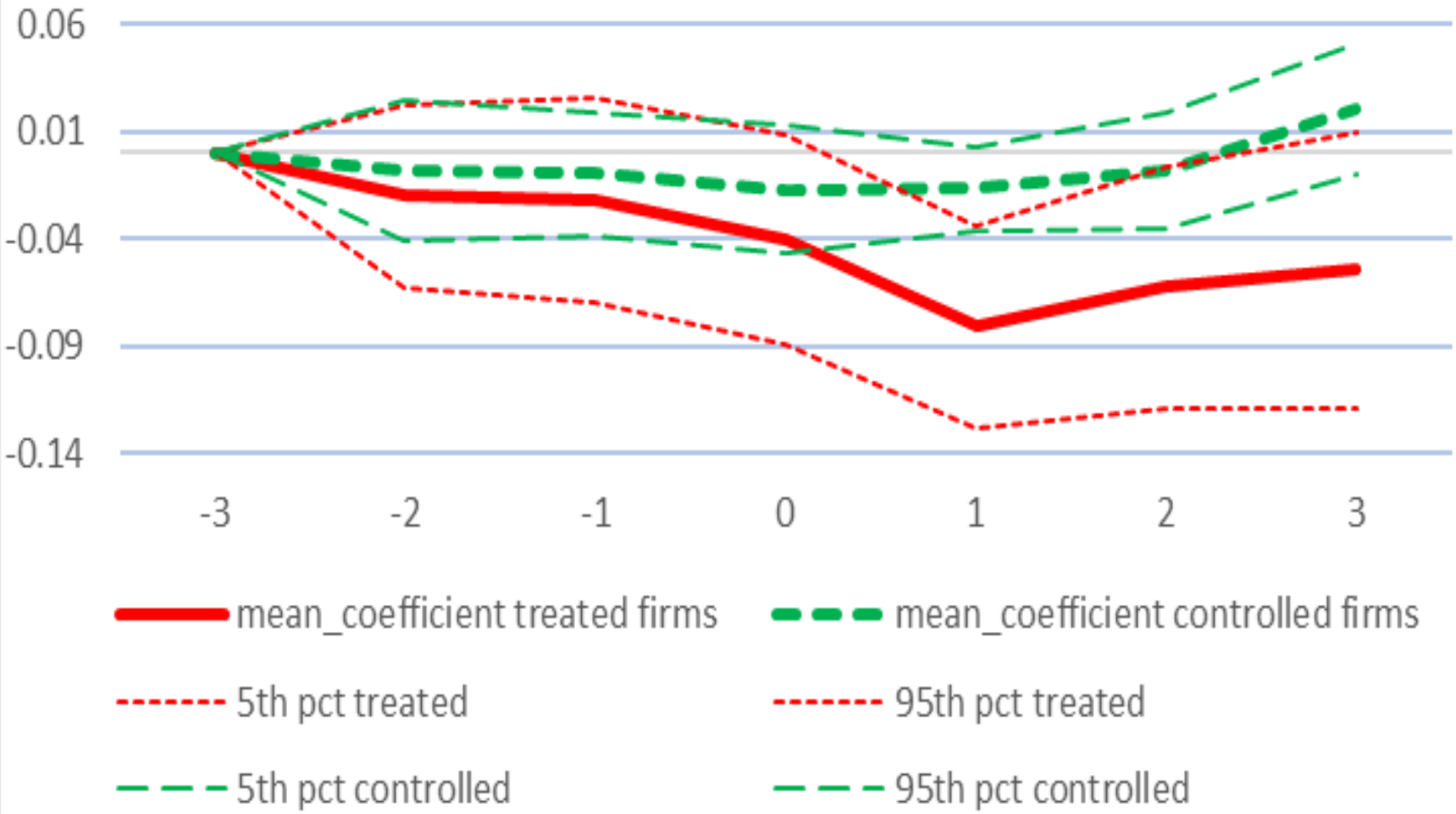
- *Compared with firms not exposed to bank stress test failures, treated firms on average reduce their M&A deal value by $25.21 million per quarter, which is 73.02% of the average deal value per quarter in the sample.*
- *The findings are robust to controlling for various borrower firm and bank characteristics as well as firm and year-quarter fixed effects*

The Dynamic Treatment of Bank Stress Tests Failures on Firms' M&A Activity

- The treatment effect on borrower M&A activity only exists from the test result release quarter onward but does not exist in any of the quarters prior to the test result release
  - Parallel-trends assumption for the efficacy of the DID approach is fully satisfied,
  - the documented impact of bank stress test failure on borrower M&A activity is most likely causal

Dep. Var.:	Deal Value	Deal Count
	(1)	(2)
Treated × D-2	-0.034	-0.007
	(0.042)	(0.006)
Treated × D-1	-0.058	-0.007
	(0.044)	(0.006)
Treated × D0	-0.093**	-0.012**
	(0.043)	(0.006)
Treated × D1	-0.109**	-0.014**
	(0.044)	(0.006)
Treated × D2	-0.072*	-0.006
	(0.042)	(0.006)
Treated × D3	-0.086*	-0.013**
	(0.045)	(0.006)
Firm Controls	Yes	Yes
Bank Controls	Yes	Yes
Year-quarter Fixed Effects	Yes	Yes
Firm Fixed Effects	Yes	Yes
Treated Dummy	Yes	Yes
Dummies of D-2 to D3	Yes	Yes
Intercept	Yes	Yes
Number of Observations	44,187	44,187
Adjusted R^2	0.076	0.099

Graph A. M&A deal value around stress test disclosure quarter



Different types of Stress Tests Failures and Firms' M&A activity

- Banks' failing the SCAP test in 2009 has little impact on borrower M&A activity; the documented treatment effect of bank stress test failure on borrower M&A activity mainly concentrates on the subsequent CCAR tests

Dep. Var.:	Deal Value		Deal count	
	(1)	(2)	(3)	(4)
SCAP Failure × Post	-0.003		0.001	
	(0.038)		(0.006)	
CCAR Failure × Post		-0.069**		-0.008**
		(0.031)		(0.004)
CCAR Failure		-0.008		-0.003
		(0.026)		(0.004)
Post		0.002		-0.000
		(0.012)		(0.002)
Firm Controls				
Firm Size$_{t-1}$	-0.090**	-0.101**	-0.015***	-0.011
	(0.036)	(0.040)	(0.006)	(0.007)
Market-To-Book $_{t-1}$	0.005	0.004	0.001	0.000
	(0.003)	(0.002)	(0.001)	(0.000)
Sales_Growth $_{t-1}$	-0.064	-0.009	-0.010*	-0.002
	(0.046)	(0.046)	(0.006)	(0.007)
Leverage $_{t-1}$	-0.765***	-1.291***	-0.120***	-0.186***
	(0.174)	(0.154)	(0.026)	(0.025)
Past_Stock_Return $_{t-1}$	0.000	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Bank Controls				
Bank Size $_{t-1}$		-0.011		-0.002
		(0.008)		(0.001)
Bank Loan Loss Provision $_{t-1}$		-0.009*		-0.002**
		(0.006)		(0.001)
Bank Tier-1 Common Equity Ratio $_{t-1}$		1.410		0.244
		(1.575)		(0.225)
Bank Cash Holding $_{t-1}$		-0.238		0.231
		(4.314)		(0.675)
Year-quarter fixed effects	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes
Intercept	Yes	Yes	Yes	Yes
Number of Observations	10,453	27,351	10,453	27,351
Adjusted R^2	0.052	0.101	0.055	0.125

- *This is likely because the SCAP test was conducted at the height of the Great Recession when most, if not all, banks adopted prudent lending policies.*
- *the subsequent CCAR tests were conducted when the economy was recovering and expanding, with all banks seeking growth opportunity and increasing their credit supply*

What is the channel?

- Enhanced screening to reduce risky exposures
  - Increased bank screening will restrain certain borrowers from uneconomical M&A activity
  - such firms tend to conduct risky M&A deals that profit firm managers at the expense of debtholders and shareholders (e.g., Grinstein and Hiribar, 2004; Harford and Li, 2007; and Masulis, Wang, and Xie, 2007; Furfine and Rosen, 2011).
- Constrained credit supply to all borrowers
  - If that is the case, we expect that the treatment effect will be particularly strong for borrowers facing tighter financial constraints

Channel 1. Enhanced screening to reduce risky exposures

Split by	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Board Size				Independent Director Ratio				Institution Ownership			
	Deal Value		Deal Count		Deal Value		Deal Count		Deal Value		Deal Count	
	Large	Small	Large	Small	Low	High	Low	High	Low	High	Low	High
Treated × Post	-0.211***	0.056	-0.024***	0.005	-0.119*	-0.093	-0.015*	-0.008	-0.126***	0.010	-0.015***	0.002
	(0.069)	(0.066)	(0.008)	(0.009)	(0.064)	(0.070)	(0.008)	(0.009)	(0.040)	(0.032)	(0.005)	(0.005)
Statistical Differences	(1) vs. (2) ***		(3) vs. (4) **		(5) vs. (6)		(7) vs. (8)		(9) vs. (10) **		(11) vs. (12) **	
Number of Observations	6,754	5,054	6,754	5,054	6,034	5,773	6,034	5,773	18,699	18,557	18,699	18,557
Adjusted R^2	0.076	0.069	0.088	0.080	0.076	0.064	0.080	0.082	0.083	0.080	0.096	0.109

Split by	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Hostile Takeover Index				Firm Size				Age			
	Deal Value		Deal Count		Deal Value		Deal Count		Deal Value		Deal Count	
	Low	High	Low	High	Large	Small	Large	Small	Older	Younger	Older	Younger
Treated × Post	-0.078**	-0.008	-0.007	-0.001	-0.106**	-0.019	-0.012**	-0.003	-0.068*	-0.046	-0.008*	-0.006
	(0.039)	(0.043)	(0.006)	(0.005)	(0.041)	(0.028)	(0.005)	(0.005)	(0.036)	(0.036)	(0.005)	(0.005)
Statistical Differences	(1) vs. (2) *		(3) vs. (4)		(5) vs. (6) ***		(7) vs. (8) **		(9) vs. (10)		(11) vs. (12)	
Number of Observations	15,416	15,471	15,416	15,471	18,963	18,729	18,963	18,729	20,017	17,579	20,017	17,579
Adjusted R^2	0.093	0.067	0.118	0.081	0.078	0.091	0.101	0.114	0.076	0.086	0.094	0.111

Split by	(1)	(2)	(3)	(4)
	Free Cash Flow			
	Deal Value		Deal Count	
	High	Low	High	Low
Treated × Post	-0.088**	-0.038	-0.011**	-0.003
	(0.039)	(0.032)	(0.005)	(0.004)
Statistical Differences	(1) vs. (2)		(3) vs. (4)	
Number of Observations	18,529	18,544	18,529	18,544
Adjusted R^2	0.083	0.071	0.107	0.090

The treatment effect is stronger for borrowers with corporate governance and are more susceptible to managerial agency problems

- *Jensen and Meckling, 1976; Jensen 1986; and Stulz, 1990*

*lagged firm characteristics, relationship-weighted bank characteristics, firm fixed effects, and year and quarter fixed effects are controlled in all regressions

Channel 2. Constrained credit supply to all borrowers

- *Firms with more relaxed financial constraints tend to conduct value-destroying M&A (e.g., Harford, 1999; Moeller, Schlingemann, and Stulz, 2004)*
- *These results again suggest that heightened creditors' control and monitoring after bank stress test failure reduces potential value-destroying M&As*

Split by	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	WW				HP				Dividend			
	Deal Value		Deal Count		Deal Value		Deal Count		Deal Value		Deal Count	
	High	Low	High	Low	High	Low	High	Low	Low	High	Low	High
Treated × Post	-0.011	-0.105***	-0.002	-0.011**	-0.021	-0.088**	-0.002	-0.010**	-0.053	-0.067*	-0.007	-0.007
	(0.032)	(0.039)	(0.005)	(0.005)	(0.034)	(0.038)	(0.005)	(0.005)	(0.035)	(0.038)	(0.005)	(0.005)
Statistical Differences	(1) vs. (2) **		(3) vs. (4) **		(5) vs. (6)		(7) vs. (8)		(9) vs. (10)		(11) vs. (12)	
Number of Observations	18,371	18,407	18,371	18,407	18,708	18,955	18,708	18,955	20,251	16,945	20,251	16,945
Adjusted R^2	0.091	0.082	0.102	0.089	0.087	0.082	0.112	0.098	0.081	0.086	0.105	0.105

Split by	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Altman's Z (1968) Score				Credit Constraint – Non-rated				Credit Constraint – Junk-rated			
	Deal Value		Deal Count		Deal Value		Deal Count		Deal Value		Deal Count	
	Low	High	Low	High	Yes	No	Yes	No	Yes	No	Yes	No
Treated × Post	-0.034	-0.088**	-0.003	-0.010*	-0.032	-0.129**	-0.005	-0.014**	-0.039	-0.270**	-0.004	-0.038***
	(0.039)	(0.039)	(0.005)	(0.005)	(0.028)	(0.057)	(0.004)	(0.007)	(0.025)	(0.114)	(0.004)	(0.013)
Statistical Differences	(1) vs. (2)		(3) vs. (4)		(5) vs. (6)		(7) vs. (8)		(9) vs. (10)		(11) vs. (12) *	
Number of Observations	16,754	17,130	16,754	17,130	28,118	9,434	28,118	9,434	34,785	2,768	34,785	2,768
Adjusted R^2	0.088	0.078	0.105	0.099	0.079	0.087	0.099	0.108	0.080	0.095	0.101	0.099

*lagged firm characteristics, relationship-weighted bank characteristics, firm fixed effects, and year and quarter fixed effects are controlled in all regressions

Heightened bank screening through covenant usage

- We further look at the usage of financial covenant in bank loan contracts for funding borrowers' M&A activity
  - Covenants are frequently used in bank loan contracts to increase lenders' ex-post incentive to monitor borrowers (e.g., Rajan and Winton, 1995).
  - Greater covenant usage in M&A-related bank loan contracts can serve as an ex-ante screening device to mitigate the adverse selection problem associated with bank lending and discourage value-destroying M&A of borrower firms (e.g., Rothschild and Stiglitz, 1976; Becher, Griffin, and Nini, 2018)

- If banks that failed stress tests tend to increase their screening strength on borrower firms' M&A deals, after the failure shocks, we expect to observe an increase in the usage of financial covenants in bank loan contracts that are used to finance borrowers' M&A deals

The Impact of Banks Failing Stress Tests on the Number of Covenant of M&A-Related Loans

- We find that stress test failure banks increase their screening on borrowers' risky M&A activity to reduce loan default risk
  - Banks failing the SCAP test does not affect the financial covenant usage in M&A-related bank loan contracts,
  - Banks failing the subsequent CCAR tests significantly increases the usage of financial covenants in M&A-related bank loan contracts,

Dep. Var.:	Number of Financial Covenants					
	SCAP failures			CCAR failures		
	(1)	(2)	(3)	(4)	(5)	(6)
Treated × Post	0.047	0.116	-0.288	0.060*	0.061**	0.060**
	(0.310)	(0.223)	(0.205)	(0.032)	(0.029)	(0.027)
Treated				-0.015	-0.019	-0.021
				(0.028)	(0.027)	(0.021)
Post				-0.010	-0.009	-0.009
				(0.008)	(0.007)	(0.007)
Firm Controls						
Firm Size$_{t-1}$		-0.071***	-0.076***		-0.032***	-0.032***
		(0.021)	(0.021)		(0.010)	(0.010)
Market-To-Book $_{t-1}$		0.033***	0.031***		0.001***	0.001***
		(0.008)	(0.008)		(0.000)	(0.000)
Sales_Growth $_{t-1}$		-0.025	-0.164		0.042	0.037
		(0.244)	(0.319)		(0.046)	(0.046)
Leverage $_{t-1}$		-0.076	-0.050		-0.218***	-0.216***
		(0.178)	(0.117)		(0.041)	(0.040)
Past_Stock_Return $_{t-1}$		-0.007***	-0.007***		0.002***	0.002***
		(0.001)	(0.001)		(0.001)	(0.001)
Bank Controls						
Bank Size $_{t-1}$			-0.694**			0.099
			(0.225)			(0.225)
Bank Loan Loss Provision $_{t-1}$			-0.135***			-0.002
			(0.033)			(0.005)
Bank Tier-1 Common Equity Ratio $_{t-1}$			7.382			-3.523
			(15.080)			(3.932)
Bank Cash Holding $_{t-1}$			58.413**			-0.713
			(24.928)			(1.917)
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	266	258	249	5,637	5,595	5,553
Adjusted R^2	0.035	0.201	0.245	0.080	0.096	0.096

The quality of the deals

- We further examine the treatment effect of bank stress test failure on borrowers' M&A deal quality.
  - We expect that the quality of the deal to improve (or at least to decrease) after their relationship banks fail stress tests.
  - We further consider cases when the acquirer finances its M&A activity via raising new bank loans (and thus receiving additional bank screening on its deal quality).

The quality of the deals

- DID term is positive and relatively large (around 1.1 to 1.2 percentage points for three-day CARs), albeit statistically insignificant
- The treatment effect on borrower M&A quality is significantly more positive (around 4 to 5 percentage points) when the borrower needs to fund M&A via raising new bank loans.
- *This finding is consistent with enhanced bank screening on borrower M&A activities*

Dep. Var.:	CAR(-1,1)					
	(1)	(2)	(3)	(4)	(5)	(6)
Treated × Post × Bank Screening				4.707**	4.875**	5.172**
				(2.107)	(2.145)	(2.166)
Treated × Bank Screening				-1.362	-1.460	-1.484
				(1.241)	(1.263)	(1.261)
Post × Bank Screening				-0.636	-0.769	-0.758
				(0.910)	(0.889)	(0.901)
Bank Screening				0.392	0.703	0.650
				(1.206)	(1.191)	(1.191)
Treated × Post	1.129	1.193	1.139	-0.155	-0.122	-0.252
	(1.327)	(1.312)	(1.318)	(1.256)	(1.253)	(1.257)
Treated	0.245	0.245	0.232	0.682	0.713	0.704
	(0.545)	(0.521)	(0.568)	(0.544)	(0.532)	(0.587)
Post	0.040	0.018	-0.186	0.216	0.237	-0.009
	(0.271)	(0.254)	(0.264)	(0.280)	(0.269)	(0.283)
Firm Controls						
Firm Size$_{t-1}$		0.270	0.359		0.160	0.246
		(1.277)	(1.251)		(1.288)	(1.260)
Market-To-Book $_{t-1}$		-0.167	-0.153		-0.186	-0.173
		(0.121)	(0.118)		(0.130)	(0.128)
Sales_Growth $_{t-1}$		-2.663	-2.649		-2.639	-2.641
		(1.940)	(1.946)		(1.881)	(1.889)
Leverage $_{t-1}$		5.452	5.224		5.160	4.746
		(4.895)	(4.780)		(4.944)	(4.833)
Past_Stock_Return $_{t-1}$		0.022	0.020		0.024	0.022
		(0.023)	(0.022)		(0.022)	(0.022)
Bank Controls						
Bank Size $_{t-1}$			-0.247			-0.235
			(0.177)			(0.178)
Bank Loan Loss Provision $_{t-1}$			0.026			0.025
			(0.125)			(0.122)
Bank Tier-1 Common Equity Ratio $_{t-1}$			13.639			10.864
			(22.617)			(23.081)
Bank Cash Holding $_{t-1}$			208.902*			235.048**
			(114.222)			(112.780)
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	1,233	1,216	1,216	1,233	1,216	1,216
Adjusted R^2	0.890	0.894	0.894	0.890	0.894	0.895

The Impact of Bank Stress Test Failure on Firms' Profitability

- Finally, we document a positive treatment effect of bank stress test failure on borrower firms' profitability (proxied by return on assets and return on equity) in subsequent quarters.
- This increased firm profitability is consistent with treatment firms refraining from M&A activity that can harm their shareholders

Dep. Var.:	ROA			ROE		
	(1)	(2)	(3)	(4)	(5)	(6)
Treated × Post	0.002***	0.001**	0.001**	0.007**	0.005*	0.005*
	(0.001)	(0.001)	(0.001)	(0.003)	(0.003)	(0.003)
Treated	-0.001	-0.001*	-0.001**	-0.003	-0.003	-0.004
	(0.001)	(0.001)	(0.001)	(0.003)	(0.002)	(0.002)
Post	0.000	-0.000	-0.000	-0.000	-0.000	-0.001
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
Firm Controls						
Firm Size$_{t-1}$		0.007***	0.007***		0.015***	0.015***
		(0.001)	(0.001)		(0.004)	(0.004)
Market-To-Book $_{t-1}$		0.001***	0.001***		0.007***	0.007***
		(0.000)	(0.000)		(0.001)	(0.001)
Sales_Growth $_{t-1}$		0.015***	0.015***		0.047***	0.047***
		(0.001)	(0.001)		(0.005)	(0.005)
Leverage $_{t-1}$		-	-		-	-
		0.039***	0.039***		0.159***	0.159***
		(0.004)	(0.004)		(0.015)	(0.015)
Past_Stock_Return $_{t-1}$		0.000***	0.000***		0.000***	0.000***
		(0.000)	(0.000)		(0.000)	(0.000)
Bank Controls						
Bank Size $_{t-1}$			-0.000			0.000
			(0.000)			(0.001)
Bank Loan Loss Provision $_{t-1}$			-0.000**			-0.001*
			(0.000)			(0.001)
Bank Tier-1 Common Equity Ratio $_{t-1}$			0.006			-0.123
			(0.028)			(0.108)
Bank Cash Holding $_{t-1}$			0.230*			0.292
			(0.117)			(0.414)
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	38,529	37,818	37,818	36,886	36,743	36,743
Adjusted R^2	0.336	0.369	0.369	0.282	0.330	0.330

Conclusion

- We study the mergers and acquisitions (M&A) activity of the borrower firms of banks that failed U.S. stress tests

- We document that borrower firms conduct significantly fewer, but better quality M&A deals after their relationship banks failed a stress test
- The dampening effect is stronger for:
  - treatment firms with weaker corporate governance
  - treatment firms more susceptible to managerial agency problems such as empire building
  - particularly when new bank loans are raised to finance their M&A activity (and thus receiving additional bank screening)
- An increase in the usage of financial covenants in M&A-related bank loan contracts
- Refrained from M&A activity that can hurt their shareholders, these firms subsequently improve their profitability

- The paper reveals important positive spillover of bank stress tests
  - It highlights the potential shared congruent preference between the creditors and equity holders in limiting activity motivated by managerial agency conflicts.

Thank you!