Online Appendix (Not for Publication)

Table 7: Correlation Coefficient Matrix

Dependent variable:	Bank Size	Tier 1 Capital	Non-performing Loans	Operating Expense Ratio	Return on Assets	Liquidity	Tangibility	Loans Ratio	Book Leverage	Sensitivity to Market Risk
Tier 1 Capital	1.000									
Non-performing Loans	-0.020	1.000								
Operating Expense Ratio	-0.150	0.118	1.000							
ROA	0.076	-0.138	-0.532	1.000						
Liquidity	0.191	0.022	0.043	-0.058	1.000					
Sensitivity to Market Risk	0.009	-0.009	0.063	0.215	0.148	1.000				
Bank Size	-0.133	-0.028	-0.179	0.087	0.012	0.228	1.000			
Tangibility	0.026	0.028	0.109	-0.054	0.043	0.202	-0.157	1.000		
Loans Ratio	-0.229	0.011	-0.017	0.004	-0.298	-0.186	-0.138	0.051	1.000	
Book Leverage	-0.256	-0.043	0.116	-0.018	-0.261	0.050	0.197	-0.185	-0.109	1.000

G. Determinants of Mergers with respect to FDIC-assisted Banks

G.1. Data

G.1.1. FDIC Assisted Merger Sample Construction

The failed bank list is obtained from the FDIC Failure Transaction Database, which consists of the failed banks, their acquirers, and the transaction closing dates. we match these transactions with the mergers in the sample using the acquirer and target names and the merger announcement dates. Next, we use the NIC website to check the correctness of the merger information. This method provides us 22 FDIC-assisted mergers in the overall merger sample. In Table 8, we analyze the determinants of bank mergers with respect to whether these banks are involved in a government-assisted merger within the time frame of our sample. Therefore, the FDIC dummy variable takes a value of 1 if the bank was an acquirer in a government-assisted merger at any point in the sample. [9]

G.2. Analysis

The dummy "FDIC" takes a value of 1 if the bank was an acquirer in a government-assisted merger at any point in the sample, and 0 otherwise.

Model Specification: Acquirer

$$\mathrm{Y}_{i,t} = \beta_0 + \beta_i(\mathrm{X}_{i,t}) + \psi_i(\text{ FDIC x } \mathrm{X}_{i,t}) + \mu_{3,i,t}$$

Model Specification: Target

$$\mathrm{Z}_{i,t} = \phi_0 + \phi_i(\mathrm{X}_{i,t}) + \lambda_i(\text{ FDIC x } \mathrm{X}_{i,t}) + \mu_{7,i,t}$$

[9] The sample size for the FDIC mergers is small and only allows us to define the FDIC dummy according to this specification. More restrictive specifications do not allow us to use a logit analysis with the corresponding FDIC subsample.

G.2.1. Acquirer

The results for the non-FDIC subsample shows that non-performing loans and book leverage decreases the probability of being an acquirer and bank size and ROA increases this probability. Considering the banks that received FDIC-assistance, ROA is the only variable that is positive and significant implying that more profitable banks among the FDIC-assisted banks are more likely to become acquirers in other mergers. Considering the interaction variables in the third column, the interaction term of the non-performing loans is significant and has the opposite sign with the actual variable, explaining the insignificant coefficient for the non-performing loans in the FDIC subsample.

G.2.2. Target

Considering the effects of FDIC assistance on targets, in our sample, there are no targets that were acquirers that received government-assistance in the earlier periods.

Table 8: Logistic Regression Results for the Acquirer (Non-FDIC versus FDIC)

	Acquirer		
	Non-FDIC	FDIC	Whole Crisis Sample
CAMELS			
Tier 1 Capital	-0.0134	-0.0345	-0.0134
	(0.662)	(0.851)	(0.662)
Non-performing Loans	-0.338**	-0.857	-0.338**
	(0.011)	(0.212)	(0.011)
Operating Expense Ratio	-0.0818	-0.362	-0.0818
	(0.576)	(0.782)	(0.576)
ROA	0.368**	3.794**	0.368**
	(0.010)	(0.014)	(0.010)
Liquidity	-0.0387	-0.323	-0.0387
	(0.142)	(0.586)	(0.142)
Sensitivity to Market Risk	-0.0834	-1.383	-0.0834
	(0.550)	(0.110)	(0.550)
Other Variables			
Bank Size	0.432***	0.769	0.432***
	(0.000)	(0.172)	(0.000)
Tangibility	0.192*	-1.284	0.192*
	(0.068)	(0.422)	(0.068)
Loans Ratio	0.0111	-0.0754	0.0111
	(0.199)	(0.598)	(0.199)
Book Leverage	-0.0424***	-0.0363	-0.0424***
	(0.000)	(0.884)	(0.000)
FDIC			3.823
			(0.776)
FDIC x Tier-1 Capital			-0.0211
			(0.906)
FDIC x Non-performing Loans			-0.519
			(0.441)
FDIC x Operating Expense Ratio			-0.280
			(0.825)
FDIC x ROA			3.426**
			(0.022)
FDIC x Liquidity			-0.284
			(0.619)
FDIC x Sensitivity to Market Risk			-1.300
			(0.124)
FDIC x Bank Size			0.337
			(0.536)
FDIC x Tangibility			-1.476
			(0.338)
FDIC x Loans Ratio			-0.0864
			(0.530)
FDIC x Book Leverage			0.00611
			(0.980)
Constant	-5.150***	-1.327	-5.150***
	(0.000)	(0.924)	(0.000)
Year Fixed Effects	Yes	Yes	Yes
Bank Fixed Effects	Yes	Yes	Yes
N	2056	28	2084
Pseudo R^2	0.129	0.429	0.142

This table shows the logistic regression results for the acquirers (targets). The dependent variable is equal to 1 if the banks is an acquirer (target) for the given year and is equal 0 otherwise. Crisis dummy is equal to 1 if the merger has taken place between years 2007 and 2010. Year fixed effects are included. Robust standard errors clustered by bank are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

H. Robustness Checks

Table 9: Robustness Check (Placebo): Logistic Regression Results for the Acquirer and the Target (Placebo Stable versus Placebo Crisis)

	Acquirer			Target		
	Stable Periods	Crisis	Whole Sample	Stable Periods	Crisis	Whole Sample
CAMELS						
Tier 1 Capital	0.0244*** (0.002)	-0.0134 (0.520)	0.0244*** (0.002)	-0.0240* (0.078)	-0.114*** (0.008)	-0.0240* (0.078)
Non-performing Loans	-0.112** (0.013)	0.126 (0.199)	-0.112** (0.013)	-0.0132 (0.649)	-0.212 (0.461)	-0.0132 (0.649)
Operating Expense Ratio	-0.162*** (0.007)	-0.350*** (0.003)	-0.162*** (0.007)	-0.0768 (0.102)	0.259 (0.154)	-0.0768 (0.102)
ROA	0.153*** (0.001)	0.0134 (0.942)	0.153*** (0.001)	-0.110* (0.076)	0.285 (0.237)	-0.110* (0.076)
Liquidity	-0.0450*** (0.000)	-0.0986*** (0.000)	-0.0450*** (0.000)	-0.0173 (0.180)	-0.0383 (0.311)	-0.0173 (0.180)
Sensitivity to Market Risk	0.0223 (0.649)	0.133 (0.230)	0.0223 (0.649)	-0.0754 (0.331)	-0.366** (0.036)	-0.0754 (0.331)
Other Variables						
Bank Size	0.370*** (0.000)	0.394*** (0.000)	0.370*** (0.000)	-0.0348 (0.382)	-0.0754 (0.429)	-0.0348 (0.382)
Tangibility	0.233*** (0.000)	0.0594 (0.419)	0.233*** (0.000)	-0.112 (0.101)	-0.0725 (0.724)	-0.112 (0.101)
Loans Ratio	0.00730** (0.026)	0.00571 (0.419)	0.00730** (0.026)	-0.00171 (0.667)	-0.0178* (0.051)	-0.00171 (0.667)
Book Leverage	-0.0127** (0.010)	-0.0365*** (0.000)	-0.0127** (0.010)	-0.0106* (0.094)	-0.00142 (0.902)	-0.0106* (0.094)
Crisis			0.937 (0.345)			0.525 (0.719)
Crisis x Bank Size			0.0239 (0.673)			-0.0406 (0.692)
Crisis x Tier 1 Capital			-0.0378* (0.084)			-0.0901** (0.044)
Crisis x Non-performing Loans			0.238** (0.025)			-0.198 (0.491)
Crisis x Operating Expense Ratio			-0.188 (0.145)			0.336* (0.074)
Crisis x ROA			-0.140 (0.454)			0.395 (0.111)
Crisis x Liquidity			-0.0536** (0.022)			-0.0210 (0.598)
Crisis x Tangibility			-0.173** (0.032)			0.0393 (0.857)
Crisis x Loans Ratio			-0.00160 (0.818)			-0.0161* (0.100)
Crisis x Book Leverage			-0.0238** (0.012)			0.00921 (0.478)
Crisis x Sensitivity to Market Risk			0.110 (0.352)			-0.291 (0.133)
Constant	-3.952*** (0.000)	-2.488** (0.024)	-3.952*** (0.000)	-1.399** (0.011)	-1.421 (0.362)	-1.399** (0.011)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
N	10132	2163	12295	9237	1931	11168
Pseudo R^2	0.085	0.097	0.088	0.025	0.051	0.030

This table shows the logistic regression results for the acquirers (targets). The dependent variable is equal to 1 if the banks is an acquirer (target) for the given year and is equal 0 otherwise. Crisis dummy is equal to 1 if the merger has taken place between years 2007 and 2010. Year fixed effects are included. Robust standard errors clustered by bank are in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01.

Table 10: Robustness Checks: Logistic Regression Results for the Acquirer and the Target (Non-TARP versus TARP)

	Acquirer			Target		
	Non-TARP	TARP	Whole Crisis Sample	Non-TARP	TARP	Whole Crisis Sample
CAMELS						
Tier 1 Capital	0.00538	-0.0396	0.0161	-0.0954**	0.357**	-0.110**
	(0.856)	(0.760)	(0.594)	(0.043)	(0.019)	(0.012)
Non-performing Loans	-0.283**	-0.195	-0.245*	-0.286**	-0.212	-0.322**
	(0.039)	(0.558)	(0.072)	(0.029)	(0.657)	(0.015)
Operating Expense Ratio	-0.259	0.253	-0.294*	0.0287	1.289	0.0395
	(0.120)	(0.406)	(0.078)	(0.862)	(0.138)	(0.811)
ROA	0.315*	0.534*	0.265	-0.148	0.665*	-0.132
	(0.056)	(0.083)	(0.105)	(0.105)	(0.085)	(0.143)
Liquidity	0.00335	-0.109*	0.00123	-0.0207	0.0413	-0.0288
	(0.914)	(0.073)	(0.969)	(0.639)	(0.660)	(0.505)
Sensitivity to Market Risk	0.0683	-0.431	0.0914	-0.0423	-1.181*	-0.0506
	(0.635)	(0.148)	(0.529)	(0.746)	(0.056)	(0.690)
Other Variables						
Bank Size	0.417***	0.300*	0.456***	0.201	-0.0922	0.124
	(0.000)	(0.056)	(0.000)	(0.102)	(0.890)	(0.284)
Tangibility	0.236*	0.0325	0.222*	-0.0771	-0.362	-0.0612
	(0.053)	(0.881)	(0.072)	(0.636)	(0.240)	(0.704)
Loans Ratio	0.0202**	-0.0270	0.0205**	0.00550	-0.0208	0.00945
	(0.030)	(0.335)	(0.032)	(0.582)	(0.579)	(0.321)
Book Leverage	-0.0314**	-0.0520*	-0.0300**	-0.0186	0.000440	-0.0232
	(0.016)	(0.065)	(0.025)	(0.230)	(0.996)	(0.132)
TARP			4.681			-5.965
			(0.289)			(0.459)
TARP x Tier-1 Capital			-0.0876			0.428**
			(0.466)			(0.011)
TARP x Non-performing Loans			-0.0248			-0.0641
			(0.938)			(0.913)
TARP x Operating Expense Ratio			0.677**			1.579*
			(0.041)			(0.091)
TARP x ROA			0.444			1.047**
			(0.246)			(0.011)
TARP x Liquidity			-0.110			0.0752
			(0.109)			(0.434)
TARP x Sensitivity to Market Risk			-0.582*			-1.328**
			(0.071)			(0.030)
TARP x Bank Size			-0.180			-0.255
			(0.301)			(0.710)
TARP x Tangibility			-0.199			-0.238
			(0.417)			(0.501)
TARP x Loans Ratio			-0.0536*			-0.0368
			(0.059)			(0.394)
TARP x Book Leverage			-0.0291			0.0316
			(0.339)			(0.732)
Constant	-5.898***	-1.175	-6.357***	-2.923*	-10.44	-2.128
	(0.000)	(0.780)	(0.000)	(0.082)	(0.160)	(0.179)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
N	1675	420	2095	1636	193	1595
Pseudo R^2	0.103	0.183	0.155	0.065	0.181	0.112

This table shows the logistic regression results for the acquirers (targets). The dependent variable is equal to 1 if the banks is an acquirer (target) for the given year and is equal 0 otherwise. Crisis dummy is equal to 1 if the merger has taken place between years 2002 and 2005. Year fixed effects are included. Robust standard errors clustered by bank are in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01.

Table 11: Robustness Checks: Logistic Regression Results for the Acquirer and the Target (Non-TARP$_{post}$) versus TARP$_{post}$

	Acquirer			Target		
	Non-TARP$_{post}$	TARP$_{post}$	Whole Crisis Sample	Non-TARP$_{post}$	TARP$_{post}$	Whole Crisis Sample
CAMELS						
Tier 1 Capital	0.00694 (0.804)	-0.209 (0.457)	0.0211 (0.465)	-0.0943** (0.048)	0.395** (0.017)	-0.110** (0.012)
Non-performing Loans	-0.276** (0.030)	-0.0800 (0.847)	-0.266** (0.041)	-0.274** (0.031)	-0.208 (0.646)	-0.320** (0.015)
Operating Expense Ratio	-0.239 (0.110)	1.044** (0.049)	-0.257* (0.096)	0.00389 (0.981)	1.360 (0.138)	0.0373 (0.821)
ROA	0.305** (0.049)	1.603*** (0.002)	0.283* (0.082)	-0.163* (0.072)	0.694* (0.090)	-0.133 (0.141)
Liquidity	-0.0307 (0.319)	-0.0958 (0.215)	-0.0287 (0.355)	-0.0230 (0.590)	0.0498 (0.628)	-0.0287 (0.506)
Sensitivity to Market Risk	0.0308 (0.821)	-1.303*** (0.007)	0.0149 (0.920)	-0.0767 (0.546)	-1.336* (0.053)	-0.0502 (0.693)
Other Variables						
Bank Size	0.461*** (0.000)	0.461** (0.041)	0.441*** (0.000)	0.0750 (0.554)	-0.0194 (0.976)	0.124 (0.287)
Tangibility	0.221** (0.043)	-0.113 (0.706)	0.218** (0.043)	-0.0626 (0.700)	-0.314 (0.199)	-0.0612 (0.704)
Loans Ratio	0.0229** (0.010)	-0.0977** (0.036)	0.0224** (0.014)	0.00492 (0.630)	-0.0139 (0.694)	0.00942 (0.322)
Book Leverage	-0.0354*** (0.003)	-0.100** (0.025)	-0.0339*** (0.007)	-0.0162 (0.298)	0.0122 (0.905)	-0.0232 (0.132)
TARP$_{post}$			6.663 (0.339)			-7.356 (0.378)
TARP$_{post}$ x Tier-1 Capital			-0.222 (0.367)			0.446** (0.012)
TARP$_{post}$ x Non-performing Loans			0.292 (0.441)			-0.0959 (0.868)
TARP$_{post}$ x Operating Expense Ratio			1.211** (0.019)			1.708* (0.081)
TARP$_{post}$ x ROA			1.246** (0.027)			1.130*** (0.010)
TARP$_{post}$ x Liquidity			-0.0826 (0.360)			0.0842 (0.401)
TARP$_{post}$ x Sensitivity to Market Risk			-1.177** (0.018)			-1.502** (0.023)
TARP$_{post}$ x Bank Size			0.0176 (0.937)			-0.213 (0.757)
TARP$_{post}$ x Tangibility			-0.340 (0.268)			-0.191 (0.532)
TARP$_{post}$ x Loans Ratio			-0.124*** (0.004)			-0.0334 (0.424)
TARP$_{post}$ x Book Leverage			-0.0721* (0.092)			0.0446 (0.657)
Constant	-5.969*** (0.000)	-0.408 (0.951)	-6.328*** (0.000)	-2.091 (0.225)	-13.00 (0.111)	-2.113 (0.183)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
N	1807	288	2095	1731	171	1595
Pseudo R^2	0.136	0.211	0.158	0.050	0.186	0.114

This table shows the logistic regression results for the acquirers (targets). The dependent variable is equal to 1 if the banks is an acquirer (target) for the given year and is equal 0 otherwise. The TARP dummy is equal to 1 if the bank has received any TARP funds. Year fixed effects are included. Robust standard errors clustered by bank are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 12: Robustness Checks: Logistic Regression Results for the Acquirer and the Target (Pre-Crisis versus Post-Crisis)

	Acquirer			Target		
	Pre-Crisis	Post-Crisis	Whole Stable Sample	Pre-Crisis	Post-Crisis	Whole Stable Sample
CAMELS						
Tier 1 Capital	0.0113	0.0136	0.0113	-0.0625*	-0.0288	-0.0625*
	(0.524)	(0.468)	(0.524)	(0.077)	(0.341)	(0.077)
Non-performing Loans	0.0481	-0.0493	0.0481	-0.245	-0.0163	-0.245
	(0.649)	(0.440)	(0.649)	(0.310)	(0.755)	(0.310)
Operating Expense Ratio	-0.277**	-0.339*	-0.277**	0.294**	-0.307	0.294**
	(0.011)	(0.071)	(0.011)	(0.039)	(0.196)	(0.039)
ROA	-0.0339	0.243**	-0.0339	0.238	-0.231	0.238
	(0.822)	(0.033)	(0.822)	(0.210)	(0.220)	(0.210)
Liquidity	-0.0951***	-0.0774***	-0.0951***	-0.0331	-0.0182	-0.0331
	(0.000)	(0.000)	(0.000)	(0.236)	(0.493)	(0.236)
Sensitivity to Market Risk	0.0922	0.0410	0.0922	-0.437***	0.126	-0.437***
	(0.380)	(0.795)	(0.380)	(0.002)	(0.538)	(0.002)
Other Variables						
Bank Size	0.425***	0.210***	0.425***	-0.0294	-0.295***	-0.0294
	(0.000)	(0.000)	(0.000)	(0.698)	(0.000)	(0.698)
Tangibility	0.0362	0.241**	0.0362	-0.0565	0.0359	-0.0565
	(0.604)	(0.012)	(0.604)	(0.726)	(0.798)	(0.726)
Loans Ratio	0.00942	0.0141*	0.00942	-0.0163**	0.00782	-0.0163**
	(0.131)	(0.050)	(0.131)	(0.044)	(0.473)	(0.044)
Book Leverage	-0.0295***	-0.0381***	-0.0295***	-0.00961	0.0127	-0.00961
	(0.000)	(0.006)	(0.000)	(0.340)	(0.465)	(0.340)
Post-Crisis			-0.318			1.720
			(0.798)			(0.330)
Post-Crisis x Bank Size			-0.215***			-0.266**
			(0.002)			(0.018)
Post-Crisis x Tier 1 Capital			0.00229			0.0337
			(0.930)			(0.469)
Post-Crisis x Non-performing Loans			-0.0974			0.229
			(0.427)			(0.355)
Post-Crisis x Operating Expense Ratio			-0.0616			-0.600**
			(0.773)			(0.030)
Post-Crisis x ROA			0.277			-0.469*
			(0.138)			(0.080)
Post-Crisis x Liquidity			0.0178			0.0149
			(0.504)			(0.700)
Post-Crisis x Tangibility			0.205*			0.0925
			(0.070)			(0.668)
Post-Crisis x Loans Ratio			0.00470			0.0241*
			(0.603)			(0.074)
Post-Crisis x Book Leverage			-0.00867			0.0224
			(0.567)			(0.261)
Post-Crisis x Sensitivity to Market Risk			-0.0512			0.563**
			(0.789)			(0.024)
Constant	-3.229***	-3.514***	-3.229***	-1.844	-0.0816	-1.844
	(0.002)	(0.000)	(0.002)	(0.159)	(0.946)	(0.159)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
N	2808	1971	4779	2521	1752	4273
Pseudo R^2	0.091	0.071	0.083	0.036	0.023	0.031

This table shows the logistic regression results for the acquirers (targets). The dependent variable is equal to 1 if the banks is an acquirer (target) for the given year and is equal 0 otherwise. The TARP_{post} dummy is equal to 1 after the bank has received any TARP funds. Year fixed effects are included. Robust standard errors clustered by bank are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.