Internet Appendix for "Organization Capital and Mergers and Acquisitions"

Table IA1
Acquirer organization capital and deal performance

This table conducts a number of robustness checks on Table 3 which examines the relation between acquirer organization capital and deal performance. The sample consists of 17,910 completed M&A transactions between 1984 and 2014 from the Thompson One Banker SDC database. Panel A includes state fixed effects. Panel B requires relative size of deal to be greater than 5%. Two-digit SIC industry and year fixed effects are included. Definitions of the variables are provided in Table A1. Heteroskedasticity-consistent standard errors (in parentheses) are clustered at the acquirer level. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Controlling for state fixed effects

Dependent	CAR(-1, 1)	ΔROA1	BHAR1	ΔROA3	BHAR3
Variable	(1)	(2)	(3)	(4)	(5)
OC	0.256***	1.427***	1.786***	3.072***	5.723**
	(2.99)	(4.05)	(5.65)	(3.20)	(2.41)
ROA	-0.008	-0.153***	-0.358***	0.323***	0.385
	(-0.92)	(-3.44)	(-8.15)	(3.37)	(1.49)
M/B	-0.028	-0.417***	-0.313***	-0.118	0.310
	(-1.32)	(-3.76)	(-3.07)	(-0.53)	(0.62)
Leverage	2.816***	5.612***	4.492***	8.109*	13.673
	(7.05)	(4.42)	(3.75)	(1.69)	(1.03)
Past return	0.001	-0.006*	-0.009**	-0.014	-0.024
	(1.47)	(-1.69)	(-2.12)	(-1.63)	(-1.04)
Top5 institutions	-1.856***	8.232***	6.343***	11.437	-21.845
	(-3.29)	(4.05)	(3.33)	(1.59)	(-1.15)
Firm size	-0.400***	1.353***	1.371***	0.326	2.510*
	(-9.98)	(9.48)	(10.32)	(0.67)	(1.91)
All cash	0.516***	0.709*	0.872**	1.147	2.359
	(4.04)	(1.70)	(2.07)	(0.68)	(0.53)
All stock	0.036	-3.336***	-2.030***	-4.794**	2.324
	(0.18)	(-4.30)	(-2.74)	(-2.14)	(0.41)
Diversifying	-0.051	-0.556	-0.388	-1.536	-5.660
	(-0.38)	(-1.21)	(-0.90)	(-0.96)	(-1.38)
Tender offer	1.138***	-0.525	-0.971	-2.472	-28.530***
	(3.65)	(-0.68)	(-1.31)	(-0.64)	(-2.95)
Relative size	0.942***	-1.859***	-1.317**	-2.886**	-1.846
	(5.59)	(-3.15)	(-2.51)	(-2.00)	(-0.47)
Private target	2.273***	-0.853	-0.823	-2.903	-5.721
	(12.15)	(-1.31)	(-1.38)	(-1.35)	(-0.98)
Subsidiary target	2.756***	-0.632	0.034	-2.853	-5.795
	(13.84)	(-0.99)	(0.06)	(-1.27)	(-0.97)
Industry and year FEs	Yes	Yes	Yes	Yes	Yes
State FEs	Yes	Yes	Yes	Yes	Yes
Intercept	Yes	Yes	Yes	Yes	Yes
Obs	17,910	8,678	8,678	4,594	4,594
Adj. R^2	0.061	0.136	0.209	0.027	0.038

Panel B: Deals with relative size greater than 5%

Dependent	CAR(-1, 1)	ΔROA1	BHAR1	ΔROA3	BHAR3
Variable	(1)	(2)	(3)	(4)	(5)
OC	0.226**	1.393***	1.878***	3.245***	5.473**
	(2.34)	(3.52)	(5.19)	(3.04)	(2.12)
ROA	-0.003	-0.156***	-0.362***	0.395***	0.534*
	(-0.28)	(-3.25)	(-7.70)	(3.85)	(1.93)
M/B	-0.032	-0.485***	-0.380***	-0.115	0.016
	(-1.34)	(-3.89)	(-3.43)	(-0.45)	(0.03)
Leverage	4.027***	8.039***	6.905***	14.797**	25.971
	(7.45)	(4.92)	(4.51)	(2.40)	(1.50)
Past return	0.001	-0.006	-0.008*	-0.010	-0.024
	(1.49)	(-1.39)	(-1.91)	(-1.13)	(-0.99)
Top5 institutions	-1.768**	8.801***	6.950***	12.526	-38.654*
	(-2.53)	(3.51)	(2.95)	(1.46)	(-1.71)
Firm size	-0.449***	1.520***	1.539***	0.337	2.694
	(-8.13)	(8.18)	(8.65)	(0.53)	(1.61)
All cash	0.722***	0.953*	1.210**	1.999	5.244
	(4.24)	(1.73)	(2.20)	(0.93)	(0.95)
All stock	0.378	-4.221***	-2.358**	-3.843	11.272
	(1.49)	(-4.22)	(-2.46)	(-1.39)	(1.59)
Diversifying	-0.043	-0.793	-0.579	-2.562	-4.884
	(-0.25)	(-1.36)	(-1.05)	(-1.31)	(-0.96)
Tender offer	1.671***	-1.183	-2.009**	-4.464	-30.390***
	(4.26)	(-1.21)	(-2.21)	(-0.97)	(-2.65)
Relative size	0.926***	-1.533**	-1.091**	-2.669*	-2.178
	(5.39)	(-2.52)	(-1.99)	(-1.77)	(-0.53)
Private target	3.089***	-1.083	-0.776	-3.914	-5.881
	(12.03)	(-1.19)	(-0.91)	(-1.38)	(-0.76)
Subsidiary target	3.651***	-0.945	0.283	-3.363	-9.633
	(13.91)	(-1.12)	(0.36)	(-1.19)	(-1.26)
Industry and year FEs	Yes	Yes	Yes	Yes	Yes
Intercept	Yes	Yes	Yes	Yes	Yes
Obs	12,639	6,269	3,304	6,269	3,304
Adj. R^2	0.067	0.134	0.196	0.027	0.033

Table IA2
Controlling for pre-merger differences between acquirers and their control firms

This table examines the relation between acquirer organization capital and one-year and three-year buy-and-hold abnormal stock returns, controlling for pre-merger characteristic differences between an acquirer and its size-, B/M-, and momentum-matched control firm. *ΔCapex* is the difference between capital expenditures (as percentage of total assets) of the acquirer and that of the matched firm. $\Delta Capex^2$ is the squared term of *ΔCapex*. *ΔBeta* is the difference between market beta of the acquirer and that of the matched firm. $\Delta Beta^2$ is the squared term of *ΔBeta*. Market beta is estimated using the previous 60 monthly stock returns (ending before the deal-completion month) and the CRSP value-weighted monthly market returns, with at least 24 months of non-missing data. *ΔPast_yr_iv* is the difference between average idiosyncratic volatility of the acquirer and that of the matched firm over the past year. $\Delta Past_yr_iv^2$ is the squared term of *ΔPast_yr_iv*. To calculate these variables, we first estimate the annualized idiosyncratic volatility of the acquirer and its matched firm for the past 12 months (ending before the deal-completion month) following Ang, Hodrick, Xing and Zhang (2006). We next calculate the average idiosyncratic volatility over the past 12 months for the acquirer and its matched firm, respectively. We then calculate the difference in average idiosyncratic volatility between the acquirer and its matched firm and the squared difference. Two-digit SIC industry and year fixed effects are included. Definitions of other variables are provided in Table A1. Heteroskedasticity-consistent standard errors (in parentheses) are clustered at the acquirer level. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Dependent Variable	BHAR1 (1)	BHAR3 (2)
OC	2.632***	6.364***
	(0.959)	(2.383)
ΔCapex	0.070	-0.032
	(0.100)	(0.239)
$\Delta Capex^2$	0.009**	0.045***
	(0.004)	(0.010)
ΔBeta	-0.418	-2.660
	(0.625)	(1.669)
$\Delta Beta^2$	-0.116	-0.039
	(0.104)	(0.309)
ΔPast_yr_iv	-0.106***	-0.114
	(0.041)	(0.105)
$\Delta Past_yr_iv^2$	0.001	-0.000
	(0.001)	(0.002)
ROA	0.285***	0.385
	(0.099)	(0.266)
M/B	-0.209	0.066
	(0.231)	(0.511)
Leverage	6.392	14.357
	(4.828)	(13.114)
Past return	-0.017	-0.017
	(0.014)	(0.032)
Top5 institutions	10.497	-17.484
	(7.278)	(19.306)
Firm size	0.627	3.030**
	(0.508)	(1.351)
All cash	1.030	2.210
	(1.697)	(4.435)
All stock	-4.254*	4.208
	(2.268)	(5.617)
Diversifying	-1.847	-6.435
	(1.608)	(4.127)
Tender offer	-2.339	-26.475***
	(3.865)	(9.561)
Relative size	-2.661*	-2.067
	(1.461)	(4.013)

Private target	-2.946	-4.873
	(2.167)	(5.738)
Subsidiary target	-2.785	-4.798
	(2.249)	(5.882)
Industry and year FEs	Yes	Yes
Intercept	Yes	Yes
Obs	8,530	4,500
Adj. R^2	0.009	0.010

Table IA3
The calendar-time portfolio approach

The sample consists of 17,910 completed M&A transactions between 1984 and 2014 from the Thompson One Banker SDC database. We form equal-weighted (EW) and value-weighted (VW) portfolios of acquirers for a holding period of 12, 24, or 36 months starting from the month following deal completion. We monthly rebalance the portfolios by dropping acquirers that reach the end of their holding periods and adding acquirers that have just completed a deal. Portfolio abnormal return is estimated as the intercept of the regression in Equation (4). Panel A reports the regression results for portfolios composed of all acquirers in the sample. Panels B and C report the regression results for portfolios composed of acquirers with the highest (top tercile) and lowest (bottom tercile) OC in the sample, respectively. Panel D reports the regression results for zero-cost hedge portfolios that long high-OC (top tercile) acquirers and short low-OC (bottom tercile) acquirers. Returns are measured in percentage points. The Newey and West (1987) serial correlation consistent standard errors (in parentheses) are reported. ***, **, and * ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: All acquirers

	One-year holding period		Two-year holding period		Three-year holding period	
	EW	VW	EW	VW	EW	VW
Intercept	-0.109	-0.097	-0.065	-0.036	-0.004	-0.022
	(0.089)	(0.084)	(0.082)	(0.076)	(0.083)	(0.075)
MKT	1.085***	1.082***	1.070***	1.048***	1.069***	1.054***
	(0.024)	(0.024)	(0.022)	(0.020)	(0.021)	(0.019)
SMB	0.668***	-0.012	0.663***	-0.018	0.675***	-0.017
	(0.062)	(0.039)	(0.060)	(0.038)	(0.054)	(0.035)
HML	-0.065	-0.366***	-0.004	-0.342***	0.058	-0.333***
	(0.048)	(0.065)	(0.038)	(0.050)	(0.037)	(0.045)
UMD	-0.204***	-0.007	-0.246***	-0.034	-0.260***	-0.053**
	(0.044)	(0.028)	(0.039)	(0.024)	(0.037)	(0.024)
Obs	371	371	371	371	371	371
Adj. R^2	0.948	0.914	0.954	0.921	0.954	0.925

Panel B: High-OC acquirer subsample

	One-year holding period		Two-year holding period		Three-year holding period	
	EW	VW	EW	VW	EW	VW
Intercept	0.188	0.134	0.220*	0.155	0.260**	0.117
	(0.141)	(0.115)	(0.124)	(0.097)	(0.123)	(0.096)
MKT	1.076***	0.963***	1.054***	0.926***	1.051***	0.931***
	(0.035)	(0.033)	(0.032)	(0.025)	(0.031)	(0.024)
SMB	0.813***	-0.079	0.797***	-0.093*	0.789***	-0.078*
	(0.069)	(0.056)	(0.070)	(0.052)	(0.063)	(0.047)
HML	-0.144**	-0.339***	-0.096*	-0.319***	-0.057	-0.322***
	(0.064)	(0.053)	(0.056)	(0.043)	(0.056)	(0.039)
UMD	-0.206***	0.044	-0.234***	0.030	-0.248***	0.039*
	(0.071)	(0.031)	(0.059)	(0.026)	(0.057)	(0.024)
Obs	371	371	371	371	371	371
Adj. R^2	0.904	0.828	0.916	0.857	0.917	0.866

Panel C: Low-OC acquirer subsample

	One-year holding period		Two-year holding period		Three-year holding period	
	EW	VW	EW	VW	EW	VW
Intercept	-0.284**	-0.402***	-0.282***	-0.325***	-0.215**	-0.274***
	(0.122)	(0.131)	(0.107)	(0.106)	(0.106)	(0.098)
MKT	1.046***	1.112***	1.054***	1.102***	1.056***	1.092***
	(0.029)	(0.032)	(0.024)	(0.027)	(0.025)	(0.024)
SMB	0.450***	0.081*	0.459***	0.002	0.497***	-0.007
	(0.059)	(0.043)	(0.055)	(0.037)	(0.049)	(0.036)
HML	0.144***	-0.008	0.239***	0.094**	0.322***	0.133***
	(0.048)	(0.049)	(0.039)	(0.041)	(0.041)	(0.037)

UMD	-0.169***	-0.001	-0.210***	-0.002	-0.221***	-0.016
	(0.038)	(0.046)	(0.027)	(0.024)	(0.025)	(0.021)
Obs	371	371	371	371	371	371
Adj. R^2	0.873	0.830	0.894	0.869	0.898	0.880

Panel D: Zero-cost hedge portfolios that long high-OC acquirers and short low-OC acquirers

	One-year holding period		Two-year holding period		Three-year holding period	
	EW	VW	EW	VW	EW	VW
Intercept	0.472***	0.536***	0.503***	0.479***	0.475***	0.391***
	(0.158)	(0.178)	(0.149)	(0.148)	(0.146)	(0.143)
MKT	0.030	-0.149***	-0.000	-0.177***	-0.006	-0.161***
	(0.037)	(0.045)	(0.035)	(0.038)	(0.036)	(0.036)
SMB	0.363***	-0.161**	0.338***	-0.095	0.292***	-0.071
	(0.055)	(0.082)	(0.056)	(0.078)	(0.050)	(0.073)
HML	-0.288***	-0.331***	-0.334***	-0.413***	-0.379***	-0.455***
	(0.061)	(0.073)	(0.063)	(0.062)	(0.064)	(0.060)
UMD	-0.037	0.045	-0.024	0.032	-0.027	0.056
	(0.050)	(0.064)	(0.046)	(0.040)	(0.048)	(0.037)
Obs	371	371	371	371	371	371
Adj. R^2	0.272	0.098	0.300	0.170	0.312	0.212

Table IA4
Addressing endogenous selection: A quasi-natural experiment

This table conducts a falsification test on Table 7 where we address endogenous selection using a quasi-natural experiment. In the test, we falsely assume that deal completion (i.e., the treatment) occurs three years before it actually does. The dependent variable is either *ROA* or buy-and-hold stock return in each year. Definitions of the variables are provided in Table A1. Heteroskedasticity-consistent standard errors (in parentheses) are clustered at the acquirer level. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

	Full Sample		High OC Acquirers		Low OC Acquirers		Full Sample	
	ROA	BHR	ROA	BHR	ROA	BHR	ROA	BHR
Dependent Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treat	-16.251**	-1.327	-0.349	-0.291	-3.806	0.296	0.167	-19.680**
	(7.533)	(1.051)	(8.694)	(1.254)	(4.985)	(0.445)	(1.290)	(9.120)
After	2.212	0.586	14.859*	1.126	-0.930	-0.680	0.030	-0.290
	(5.054)	(0.663)	(8.417)	(1.050)	(4.347)	(0.485)	(0.707)	(5.827)
Treat × After	9.931*	0.017	-9.011	-0.927	3.660	-0.330	-0.081	12.680*
	(5.413)	(0.637)	(13.405)	(1.300)	(6.654)	(0.616)	(0.783)	(7.109)
OC							1.344	5.081
							(1.060)	(7.874)
OC × Treat							-2.323*	4.594
							(1.235)	(7.382)
OC × After							0.492	2.841
							(0.478)	(4.508)
OC × Treat × After							0.164	-2.718
							(0.668)	(6.235)
ROA	-0.003	0.129**	0.312	0.205**	-0.354	0.438***	0.124*	0.058
	(0.487)	(0.063)	(0.674)	(0.086)	(0.754)	(0.085)	(0.065)	(0.489)
M/B	-6.819***	0.342	-4.519***	0.155	-0.453	0.191	0.341	-6.821***
	(1.546)	(0.245)	(1.653)	(0.441)	(1.325)	(0.149)	(0.245)	(1.556)
Leverage	68.953***	-3.214	1.131	-5.652	24.332**	-1.110	-3.190	71.235***

	(17.010)	(2.231)	(25.694)	(4.611)	(12.241)	(1.131)	(2.249)	(16.895)
Past return	-0.068*	0.012**	-0.210***	-0.010	-0.067	0.020***	0.012**	-0.066
	(0.040)	(0.005)	(0.074)	(0.012)	(0.049)	(0.007)	(0.005)	(0.040)
Top5 institutions	-0.027	0.004	-0.549**	0.044	0.067	0.048**	0.007	-0.034
	(0.255)	(0.032)	(0.217)	(0.044)	(0.240)	(0.023)	(0.032)	(0.254)
Firm size	-31.252***	-1.706***	-0.066	0.245	-1.199	0.016	-1.394**	-26.743***
	(7.028)	(0.632)	(1.432)	(0.342)	(1.008)	(0.122)	(0.670)	(7.333)
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs	1,740	1,740	330	330	752	752	1,740	1,740
Adj. R^2	0.334	0.584	0.206	0.337	0.239	0.358	0.491	0.181

Table IA5
Target organization capital and deal performance: Robustness checks

This table examines the relation between acquirer organization capital, target organization capital, and deal performance. Panel A present regression results based on the same specification as in Table 9 Panel B, replacing OC gap with OC ratio, the natural logarithm of the ratio of acquirer organization capital to target organization capital. Panels B-D repeat Table 9 and Panel A using a different sample where in order to use public parent financial information for a subsidiary target firm, we do not impose any requirement for the transaction value of the deal involving the subsidiary. The sample is a subsample of our M&A sample where we have information on 2,366 public, 719 private, and 2,493 subsidiary target firms. Panels E-G repeat Table 9 and Panel A using a different sample where in order to use public parent financial information for a subsidiary target firm, we impose a requirement that the transaction value of the deal be greater than 20% of public parent total assets. The sample is a subsample of our M&A sample where we have information on 2,366 public, 719 private, and 773 subsidiary target firms. For brevity, we only report the coefficient estimates on different measures of *OC*. Two-digit SIC industry and year fixed effects are included. Definitions of the variables are provided in Table A1. Heteroskedasticity-consistent standard errors (in parentheses) are clustered at the acquirer level. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Including the ratio between acquirer organization capital and target organization capital

Dependent	CAR(-1, 1)	ΔROA1	BHAR1	ΔROA3	BHAR3
Variable	(1)	(2)	(3)	(4)	(5)
OC ratio	0.061	0.669**	2.141*	0.565**	6.457**
	(0.51)	(2.25)	(1.78)	(1.97)	(2.10)
Control variables	Yes	Yes	Yes	Yes	Yes
Industry and year FEs	Yes	Yes	Yes	Yes	Yes
Intercept	Yes	Yes	Yes	Yes	Yes
Obs	4,125	2,230	2,230	1,192	1,192
Adj. R^2	0.082	0.123	0.018	0.230	0.033

Panel B: Including target organization capital: No filter for subsidiary targets

Dependent	CAR(-1, 1)	ΔROA1	BHAR1	ΔROA3	BHAR3
Variable	(1)	(2)	(3)	(4)	(5)
OC	0.202	1.404**	2.045	2.443***	8.766**
	(1.23)	(2.17)	(1.23)	(4.88)	(2.01)
Target OC	-0.144	-0.403	-0.992	-0.233	3.967
	(-1.50)	(-1.00)	(-1.00)	(-0.60)	(1.35)
Control variables	Yes	Yes	Yes	Yes	Yes
Industry and year FEs	Yes	Yes	Yes	Yes	Yes
Intercept	Yes	Yes	Yes	Yes	Yes
Obs	5,578	3,005	3,005	1,596	1,596
Adj. R^2	0.086	0.107	0.016	0.203	0.014

Panel C: Including organization capital gap: No filter for subsidiary targets

Dependent	CAR(-1, 1)	ΔROA1	BHAR1	ΔROA3	BHAR3
Variable	(1)	(2)	(3)	(4)	(5)
OC gap	0.150**	0.823***	0.693	1.030***	0.492
	(2.17)	(2.77)	(1.05)	(2.88)	(0.24)
Control variables	Yes	Yes	Yes	Yes	Yes
Industry and year FEs	Yes	Yes	Yes	Yes	Yes
Intercept	Yes	Yes	Yes	Yes	Yes
Obs	5,578	3,005	3,005	1,596	1,596
Adj. R^2	0.086	0.108	0.016	0.192	0.009

Panel D: Including organization capital ratio: No filter for subsidiary targets

Dependent	CAR(-1, 1)	ΔROA1	BHAR1	ΔROA3	BHAR3
Variable	(1)	(2)	(3)	(4)	(5)
OC ratio	0.329	2.142**	3.980	2.783***	4.244
	(1.28)	(2.26)	(1.45)	(2.93)	(0.57)
Control variables	Yes	Yes	Yes	Yes	Yes
Industry and year FEs	Yes	Yes	Yes	Yes	Yes
Intercept	Yes	Yes	Yes	Yes	Yes
Obs	5,578	3,005	3,005	1,596	1,596
Adj. R^2	0.086	0.105	0.016	0.188	0.009

Panel E: Including target organization capital: Using the 20% filter for subsidiary targets

Dependent	CAR(-1, 1)	ΔROA1	BHAR1	ΔROA3	BHAR3
Variable	(1)	(2)	(3)	(4)	(5)
OC	0.162	1.338	2.501	2.116***	8.697*
	(0.78)	(1.51)	(1.18)	(3.59)	(1.88)
Target OC	-0.129	-0.457	-1.259	-0.396	0.974
	(-1.19)	(-1.01)	(-1.09)	(-0.83)	(0.30)
Control variables	Yes	Yes	Yes	Yes	Yes
Industry and year FEs	Yes	Yes	Yes	Yes	Yes
Intercept	Yes	Yes	Yes	Yes	Yes
Obs	3,858	2,084	2,084	1,101	1,101
Adj. R^2	0.080	0.138	0.014	0.247	0.027

Panel F: Including organization capital gap: Using the 20% filter for subsidiary targets

Dependent	CAR(-1, 1)	ΔROA1	BHAR1	ΔROA3	BHAR3
Variable	(1)	(2)	(3)	(4)	(5)
OC gap	0.136*	0.885***	0.780	1.056**	2.265
	(1.78)	(2.64)	(1.09)	(2.45)	(1.04)
Control variables	Yes	Yes	Yes	Yes	Yes
Industry and year FEs	Yes	Yes	Yes	Yes	Yes
Intercept	Yes	Yes	Yes	Yes	Yes
Obs	3,858	2,084	2,084	1,101	1,101
Adj. R^2	0.081	0.142	0.014	0.246	0.025

Panel G: Including organization capital ratio: Using the 20% filter for subsidiary targets

Dependent Variable	CAR(-1, 1) (1)	ΔROA1 (2)	BHAR1 (3)	ΔROA3 (4)	BHAR3 (5)
OC ratio	0.325	2.429**	5.337	2.653**	11.225
	(1.04)	(2.16)	(1.58)	(2.31)	(1.28)
Control variables	Yes	Yes	Yes	Yes	Yes
Industry and year FEs	Yes	Yes	Yes	Yes	Yes
Intercept	Yes	Yes	Yes	Yes	Yes
Obs	3,858	2,084	2,084	1,101	1,101
Adj. R^2	0.080	0.138	0.014	0.238	0.025