Internet Appendix*
for "Stronger Risk Controls, Lower Risk: Evidence from U.S. Bank Holding Companies"

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Table IA.I: Performance during 1998 Crisis and RMI in 1999-2009

(Unabridged version of Table III, Panel B in the paper)

This table reports the results of panel regressions examining how BHCs changed their RMI in response to their experiences in the 1998 Russian crisis. Definitions of variables are listed in Appendix B of the paper. We estimate the following regression on a panel that has one observation for each BHC-year combination, and spans the time period 1999 to 2009:

$$\text{RMI}_{j,t} = \alpha + \boldsymbol{\beta} * X_{j,t-1} + \text{Year FE} + \text{Size decile FE}$$

We include year fixed effects and size decile fixed effects in all specifications. In column (2), we estimate a first-difference specification which is similar to the specification in column (1), except that we first-difference the dependent variable and all the independent variables, with the exception of *Change in CEO* and *Large M&A*. The empirical specification in columns (3) through (5) is similar to that in column (1) with the following differences: the dependent variable in column (3) is the increase in RMI over 1998–2000, and we control for all the BHC characteristics in column (1) for the year 1998 including size decile fixed effects; similarly, the dependent variable in column (4) (column (5)) is the increase in RMI over 2000–2003 (increase in RMI over 2003–2006), and we control for all the BHC characteristics in column (1) for the year 2000 (year 2003) including size decile fixed effects. Standard errors (reported in parentheses) are robust to heteroskedasticity. We use the symbols ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) RMI	(2) ΔRMI	(3) $\Delta RMI_{1998-00}$	(4) $\Delta RMI_{2000-03}$	(5) $\Delta RMI_{2003-06}$
High Tail Risk 1998	-0.075***	-0.009	-0.015	-0.063	-0.001
	(0.022)	(0.006)	(0.057)	(0.072)	(0.046)
ROA_{t-1}	2.802		-12.077	-1.043	0.152
	(2.248)		(16.840)	(8.950)	(4.903)
$\text{Annual return}_{t-1}$	-0.050		0.154	-0.090	0.026
	(0.045)		(0.152)	(0.151)	(0.124)
Tail risk_{t-1}	-0.932		-3.882	-0.102	-0.435
	(1.150)		(4.338)	(4.039)	(2.199)
$(\text{Deposits/Assets})_{t-1}$	0.457***		-0.349	-0.333	0.057
	(0.165)		(0.563)	(0.572)	(0.263)
$(\text{ST borrowing/Assets})_{t-1}$	0.058		-0.617	0.181	-0.229
	(0.392)		(0.583)	(0.545)	(0.514)
$(\text{Tier-1 capital/Assets})_{t-1}$	-3.279***		-1.715	1.725	0.297
	(0.748)		(2.816)	(2.138)	(0.788)
$(\text{Loans/Assets})_{t-1}$	0.277***		0.273	-0.065	-0.023
	(0.088)		(0.253)	(0.200)	(0.149)
$(\text{Bad loans/Assets})_{t-1}$	3.464		9.027	-5.978	-0.336
	(3.076)		(8.042)	(13.727)	(4.038)
$(\text{Non-int. income/Income})_{t-1}$	0.118		0.513	-0.214	0.092
	(0.108)		(0.372)	(0.357)	(0.172)
$(\text{Deriv. trading/Assets})_{t-1}$	0.004		0.007	0.002	0.006
	(0.002)		(0.073)	(0.025)	(0.005)
$(\text{Deriv. hedging/Assets})_{t-1}$	-0.017		1.053	-1.062	0.123
	(0.112)		(0.711)	(1.227)	(0.102)
$\text{Inst. ownership}_{t-1}$	-0.081		-0.165	0.140	-0.040
	(0.057)		(0.217)	(0.156)	(0.092)
G-Index_{t-1}	-0.003		0.006	0.008	-0.007
	(0.003)		(0.009)	(0.010)	(0.005)
$\text{Board independence}_{t-1}$	0.270***		0.162	-0.089	0.002
	(0.089)		(0.302)	(0.301)	(0.137)

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Table continued...

	(1) RMI	(2) ΔRMI	(3) $\Delta RMI_{1998-00}$	(4) $\Delta RMI_{2000-03}$	(5) $\Delta RMI_{2003-06}$
Board expertise$_{t-1}$	-0.188*		-0.247	0.195	0.050
	(0.107)		(0.462)	(0.363)	(0.168)
Change in CEO$_{t-1}$	0.064		0.125	0.136	-0.011
	(0.050)		(0.157)	(0.343)	(0.088)
Large M&A$_{t-1}$	-0.039		0.047	-0.049	0.021
	(0.025)		(0.046)	(0.057)	(0.062)
ΔROA$_{t-1}$		1.864***			
		(0.606)			
ΔAnnual return$_{t-1}$		-0.004			
		(0.011)			
ΔTail risk$_{t-1}$		0.879***			
		(0.329)			
Δ(Deposits/Assets)$_{t-1}$		-0.141			
		(0.115)			
Δ(ST borrowing/Assets)$_{t-1}$		-0.086			
		(0.124)			
Δ(Tier-1 capital/Assets)$_{t-1}$		-0.615*			
		(0.333)			
Δ(Loans/Assets)$_{t-1}$		-0.061			
		(0.084)			
Δ(Bad loans/Assets)$_{t-1}$		-0.031			
		(0.973)			
Δ(Non-int. income/Income)$_{t-1}$		-0.048			
		(0.091)			
Δ(Deriv. trading/Assets)$_{t-1}$		-0.000			
		(0.002)			
Δ(Deriv. hedging/Assets)$_{t-1}$		0.065***			
		(0.019)			
ΔInst. ownership$_{t-1}$		-0.049			
		(0.042)			
ΔG-Index$_{t-1}$		-0.002			
		(0.007)			
ΔBoard independence$_{t-1}$		-0.101*			
		(0.061)			
ΔBoard expertise$_{t-1}$		0.730**			
		(0.328)			
Constant	0.283	0.001	0.122	0.330	-0.077
	(0.221)	(0.014)	(0.579)	(0.602)	(0.317)
Observations	570	549	37	48	55
R^2	0.480	0.270	0.834	0.301	0.357
Year FE	Yes	Yes	No	No	No
Size decile FE	Yes	Yes	Yes	Yes	Yes

Table IA.II: Additional Robustness Tests for the Relationship between RMI and Risk

This table reports the results of additional panel regressions to investigate the relationship between *Tail risk*$_t$ and RMI_{t-1}. In column (1), we estimate the following GLS random-effects model with an AR(1) disturbance:

$$\begin{aligned} \text{Tail risk}_{j,t} &= \alpha + \beta * RMI_{j,t-1} + \gamma * X_{j,t-1} + \mu_j + \mu_t + e_{j,t}, \text{ where} \\ e_{j,t} &= \rho * e_{j,t-1} + z_{j,t}. \end{aligned}$$

In column (2), we estimate the following first-difference (FD) estimator:

$$\Delta\text{Tail risk}_{j,t} = \alpha + \beta * \Delta RMI_{j,t-1} + \gamma * \Delta X_{j,t-1} + \text{Year FE}$$

In the above equation, the dependent variable is Δ*Tail risk*$_t$ (i.e., *Tail risk*$_t$-*Tail risk*$_{t-1}$), and the regressors are the lagged first-differences of RMI and other control variables; we also include year fixed effects. Standard errors (reported in parentheses) are robust to heteroskedasticity and are clustered at the level of the BHC. We use the symbols ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) Tail risk$_t$	(2) ΔTail risk$_t$
RMI	-0.021***	
	(0.006)	
ΔRMI$_{t-1}$		-0.021*
		(0.011)
Size$_{t-1}$	0.002	
	(0.003)	
Size$^2_{t-1}$	0.004*	
	(0.002)	
ROA$_{t-1}$	-0.592***	
	(0.148)	
Annual return$_{t-1}$	-0.014***	
	(0.003)	
(Deposits/Assets)$_{t-1}$	-0.035**	
	(0.016)	
(ST borrowing/Assets)$_{t-1}$	0.058*	
	(0.031)	
(Tier-1 capital/Assets)$_{t-1}$	0.132**	
	(0.053)	
(Loans/Assets)$_{t-1}$	-0.017	
	(0.013)	
(Bad loans/Assets)$_{t-1}$	1.754***	
	(0.200)	
(Non-int. income/Income)$_{t-1}$	-0.066***	
	(0.014)	
(Deriv. trading/Assets)$_{t-1}$	-0.000	
	(0.000)	
(Deriv. hedging/Assets)$_{t-1}$	-0.011	
	(0.008)	
Inst. ownership$_{t-1}$	0.049***	
	(0.007)	
G-Index$_{t-1}$	0.000	
	(0.001)	

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Table continued...

	(1) Tail risk$_t$	(2) ΔTail risk$_t$
Change in CEO$_{t-1}$	0.003	
	(0.004)	
Large M&A$_{t-1}$	-0.005**	
	(0.002)	
ΔSize$_{t-1}$		0.004
		(0.005)
ΔROA$_{t-1}$		-0.327
		(0.212)
ΔAnnual return$_{t-1}$		0.003*
		(0.002)
Δ(Deposits/Assets)$_{t-1}$		0.044**
		(0.020)
Δ(ST borrowing/Assets)$_{t-1}$		0.038*
		(0.021)
Δ(Tier-1 capital/Assets)$_{t-1}$		0.099
		(0.070)
Δ(Loans/Assets)$_{t-1}$		-0.024
		(0.016)
Δ(Bad loans/Assets)$_{t-1}$		0.471
		(0.623)
Δ(Non-int. income/Income)$_{t-1}$		-0.046**
		(0.023)
Δ(Deriv. trading/Assets)$_{t-1}$		0.001**
		(0.000)
Δ(Deriv. hedging/Assets)$_{t-1}$		0.006
		(0.010)
ΔInst. ownership$_{t-1}$		0.006
		(0.007)
ΔG-Index$_{t-1}$		0.001
		(0.001)
Constant	0.081***	-0.004*
	(0.015)	(0.002)
Observations	701	642
R^2		0.713
Autocorrelation ρ	0.457	
Year FE	Yes	Yes

Table IA.III: Robustness of Results to Alternative Measures of RMI

In this table, we replicate our crisis-period results (Table IV in the paper) and the panel regression results (Table V in the paper) using two alternative measures of RMI, namely *RMI-FW* and *Alt. RMI*. *RMI-FW* is similar to *RMI*, except that the index weights are fixed over the entire sample period ('FW' stands for fixed weight) instead of being computed year by year. *Alt. RMI* is computed as the first principal component of the following seven risk management variables: *CRO present, CRO executive*, *CRO top5*, *CRO centrality*, *Risk committee experience*, *Reports to Board* and *Active risk committee*. All other variables are defined in Appendix B of the paper. In all the panels, standard errors (reported in parentheses) are robust to heteroskedasticity and are clustered at the BHC level. We use the symbols ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

In panel A, we report the results of cross-sectional regressions that examine whether BHCs with high *Pre-crisis RMI-FW* (defined as the average *RMI-FW* over the years 2005 and 2006) fared better during the crisis years. We confine the regression to the crisis years, 2007 and 2008. We include year fixed effects in all specifications.

In panel B, we report the results of cross-sectional regressions that examine whether BHCs with high *Pre-crisis Alt. RMI* (defined as the average *Alt. RMI* over the years 2005 and 2006) fared better during the crisis years. We confine the regression to the crisis years, 2007 and 2008. We include year fixed effects in all specifications.

Panel C reports the results of panel regressions that examine the relationship between BHCs' *Tail risk*$_t$ and *RMI-FW*$_{t-1}$. We estimate the regressions on a panel that has one observation for each BHC-year combination, and spans the time period 1995–2010. We include year fixed effects in all specifications, size decile fixed effects in Column (4), and BHC fixed effects in Column (5).

Panel D reports the results of panel regressions that examine the relationship between BHCs' *Tail risk*$_t$ and *Alt. RMI*$_{t-1}$. We estimate the regressions on a panel that has one observation for each BHC-year combination, and spans the time period 1995–2010. We include year fixed effects in all specifications, size decile fixed effects in Column (4), and BHC fixed effects in Column (5).

Panel A: Pre-crisis RMI-FW and Crisis Period Performance

	(1)	(2)	(3)	(4)
	Bad loans/Assets	ROA	Annual return	Tail risk
RMI-FW in 2006	-0.019**	0.015***	0.320***	-0.029***
	(0.008)	(0.004)	(0.082)	(0.010)
Size in 2006	0.002	-0.005***	-0.135***	0.004
	(0.001)	(0.002)	(0.045)	(0.004)
$Size^2$ in 2006	-0.001	0.001	0.044	-0.003
	(0.001)	(0.001)	(0.034)	(0.003)
ROA in 2006	0.054	0.970***	0.912	-0.166
	(0.224)	(0.205)	(4.595)	(0.525)
Tier-1 capital/Assets in 2006	-0.012	0.033	-0.483	-0.009
	(0.057)	(0.060)	(1.356)	(0.152)
Bad loans/Assets in 2006	2.912***	-0.376	-11.384	1.914*
	(0.956)	(0.394)	(8.585)	(1.046)
Deposits/Assets in 2006	0.022	-0.011	0.147	-0.031
	(0.025)	(0.010)	(0.230)	(0.022)
Loans/Assets in 2006	-0.017	-0.013	-0.303	0.003
	(0.023)	(0.010)	(0.202)	(0.019)
Constant	0.017**	-0.007	-0.240	0.148***
	(0.008)	(0.006)	(0.174)	(0.017)
Observations	138	138	138	138
R^2	0.416	0.799	0.173	0.666
Year FE	Yes	Yes	Yes	Yes

Panel B: Pre-crisis Alt. RMI and Crisis Period Performance

	(1)	(2)	(3)	(4)
	Bad loans/Assets	ROA	Annual return	Tail risk
Pre-crisis Alt. RMI	-0.015**	0.014***	0.264***	-0.023***
	(0.007)	(0.004)	(0.067)	(0.008)
Size in 2006	0.002	-0.003	-0.136***	0.004
	(0.001)	(0.002)	(0.045)	(0.004)
Size^2 in 2006	-0.001	0.001	0.044	-0.003
	(0.001)	(0.001)	(0.034)	(0.003)
ROA in 2006	0.047		1.008	-0.175
	(0.221)		(4.587)	(0.523)
Tier-1 capital/Assets in 2006	-0.010	0.313***	-0.509	-0.007
	(0.056)	(0.037)	(1.349)	(0.151)
Bad loans/Assets in 2006	2.926***	-0.552	-11.642	1.936*
	(0.961)	(0.383)	(8.653)	(1.042)
Deposits/Assets in 2006	0.021	-0.008	0.150	-0.032
	(0.025)	(0.010)	(0.230)	(0.022)
Loans/Assets in 2006	-0.016	-0.014	-0.319	0.004
	(0.023)	(0.010)	(0.202)	(0.019)
Constant	0.016**	-0.020***	-0.216	0.146***
	(0.008)	(0.005)	(0.172)	(0.016)
Observations	138	138	138	138
R^2	0.413	0.768	0.170	0.665
Year FE	Yes	Yes	Yes	Yes

Panel C: Relationship between *Tail risk*$_t$ and *RMI-FW*$_{t-1}$

	Tail risk$_t$				
	(1)	(2)	(3)	(4)	(5)
RMI-FW$_{t-1}$	-0.009**	-0.007**	-0.008**	-0.009**	-0.011
	(0.004)	(0.003)	(0.004)	(0.004)	(0.007)
Size$_{t-1}$	0.001	0.000	0.002		0.005
	(0.001)	(0.002)	(0.002)		(0.006)
Size$^2_{t-1}$	0.002**	0.003***	0.005**		0.006***
	(0.001)	(0.001)	(0.002)		(0.002)
ROA$_{t-1}$	-0.687***	-0.761***	-1.260***	-0.697***	-0.748**
	(0.187)	(0.203)	(0.175)	(0.208)	(0.284)
Annual return$_{t-1}$	-0.010***	-0.009***	-0.011**	-0.009***	-0.007**
	(0.003)	(0.003)	(0.005)	(0.003)	(0.003)
(Deposits/Assets)$_{t-1}$	-0.005	-0.009	0.023	-0.014	0.041**
	(0.010)	(0.011)	(0.016)	(0.012)	(0.020)
(ST borrowing/Assets)$_{t-1}$	0.016	0.016	0.008	0.007	0.037
	(0.019)	(0.019)	(0.032)	(0.019)	(0.027)
(Tier-1 capital/Assets)$_{t-1}$	0.164***	0.192***	0.059	0.165***	0.229***
	(0.047)	(0.052)	(0.104)	(0.054)	(0.078)
(Loans/Assets)$_{t-1}$	-0.012	-0.021***	-0.023**	-0.024***	-0.032
	(0.007)	(0.007)	(0.011)	(0.006)	(0.021)
(Bad loans/Assets)$_{t-1}$	1.053***	1.150***	1.595***	1.120***	0.898**
	(0.251)	(0.267)	(0.505)	(0.260)	(0.419)
(Non-int. income/Income)$_{t-1}$	-0.005	-0.020*	-0.011	-0.023**	-0.049**
	(0.010)	(0.011)	(0.010)	(0.011)	(0.020)
(Deriv. trading/Assets)$_{t-1}$		-0.000***	-0.000***	0.000	0.000
		(0.000)	(0.000)	(0.000)	(0.001)
(Deriv. hedging/Assets)$_{t-1}$		-0.001	-0.005	0.003	-0.001
		(0.005)	(0.004)	(0.005)	(0.007)
Inst. ownership$_{t-1}$		0.015***	0.015***	0.013***	0.018**
		(0.004)	(0.005)	(0.004)	(0.007)
G-Index$_{t-1}$		0.000	0.001	0.000	0.002**
		(0.000)	(0.000)	(0.000)	(0.001)
Change in CEO$_{t-1}$		0.003	-0.000	0.003	0.002
		(0.003)	(0.003)	(0.003)	(0.003)
Large M&A$_{t-1}$		0.002	-0.000	0.002	-0.002
		(0.001)	(0.002)	(0.002)	(0.002)
CEO's delta$_{t-1}$			0.025		
			(0.059)		
CEO's vega$_{t-1}$			-0.005		
			(0.003)		
CEO's tenure$_{t-1}$			0.000		
			(0.000)		
Constant	0.098***	0.096***	0.055***	0.109***	0.029
	(0.012)	(0.014)	(0.015)	(0.015)	(0.018)
Observations	803	701	368	701	701
R^2	0.809	0.837	0.882	0.838	0.876
Year FE	Yes	Yes	Yes	Yes	Yes
Size decile FE	No	No	No	Yes	No
BHC FE	No	No	No	No	Yes

Panel D: Relationship between *Tail risk*$_t$ and *Alt. RMI*$_{t-1}$

	Tail risk$_t$				
	(1)	(2)	(3)	(4)	(5)
Alt. RMI$_{t-1}$	-0.007**	-0.006**	-0.008**	-0.007**	-0.010
	(0.003)	(0.003)	(0.003)	(0.003)	(0.007)
Size$_{t-1}$	0.001	0.000	0.003*		0.005
	(0.001)	(0.002)	(0.002)		(0.006)
Size$^2_{t-1}$	0.002*	0.003***	0.004**		0.006***
	(0.001)	(0.001)	(0.002)		(0.002)
ROA$_{t-1}$	-0.687***	-0.761***	-1.202***	-0.696***	-0.746**
	(0.187)	(0.203)	(0.183)	(0.207)	(0.284)
Annual return$_{t-1}$	-0.010***	-0.009***	-0.011**	-0.009***	-0.007**
	(0.003)	(0.003)	(0.005)	(0.003)	(0.003)
(Deposits/Assets)$_{t-1}$	-0.005	-0.009	0.014	-0.014	0.041**
	(0.010)	(0.011)	(0.011)	(0.012)	(0.020)
(ST borrowing/Assets)$_{t-1}$	0.016	0.016	-0.004	0.007	0.037
	(0.019)	(0.019)	(0.032)	(0.019)	(0.027)
(Tier-1 capital/Assets)$_{t-1}$	0.164***	0.192***	0.138	0.164***	0.228***
	(0.047)	(0.052)	(0.100)	(0.054)	(0.078)
(Loans/Assets)$_{t-1}$	-0.012	-0.021***	-0.017*	-0.024***	-0.032
	(0.007)	(0.007)	(0.010)	(0.006)	(0.021)
(Bad loans/Assets)$_{t-1}$	1.056***	1.152***	1.515***	1.121***	0.898**
	(0.250)	(0.267)	(0.498)	(0.261)	(0.418)
(Non-int. income/Income)$_{t-1}$	-0.005	-0.020*	-0.005	-0.022*	-0.050**
	(0.010)	(0.011)	(0.009)	(0.011)	(0.019)
(Deriv. trading/Assets)$_{t-1}$		-0.000***	-0.000***	0.000	0.000
		(0.000)	(0.000)	(0.000)	(0.001)
(Deriv. hedging/Assets)$_{t-1}$		-0.001	-0.007	0.003	-0.001
		(0.005)	(0.004)	(0.005)	(0.007)
Inst. ownership$_{t-1}$		0.015***	0.013***	0.013***	0.018**
		(0.004)	(0.005)	(0.004)	(0.007)
G-Index$_{t-1}$		0.000	0.000	0.000	0.002*
		(0.000)	(0.000)	(0.000)	(0.001)
Change in CEO$_{t-1}$		0.003	-0.002	0.003	0.002
		(0.003)	(0.003)	(0.003)	(0.003)
Large M&A$_{t-1}$		0.002	0.000	0.002	-0.002
		(0.001)	(0.002)	(0.002)	(0.002)
CEO's delta$_{t-1}$			0.037		
			(0.059)		
CEO's vega$_{t-1}$			-0.004*		
			(0.003)		
Constant	0.098***	0.096***	0.081***	0.109***	0.030
	(0.012)	(0.014)	(0.015)	(0.015)	(0.018)
Observations	803	701	399	701	701
R^2	0.809	0.837	0.878	0.838	0.876
Year FE	Yes	Yes	Yes	Yes	Yes
Size decile FE	No	No	No	Yes	No
BHC FE	No	No	No	No	Yes

Table IA.IV: Relationship between RMI and Downside/Aggregate Risk

This table reports the results of panel regressions that examine the relationship between BHCs' *Downside risk*$_t$/*Aggregate risk*$_t$ and RMI_{t-1}. We estimate the following regression:

$$\mathrm{Y}_{j,t} = \alpha + \beta * \mathrm{RMI}_{j,t-1} + \gamma * X_{j,t-1} + \text{BHC or Size Decile FE} + \text{Year FE}$$

The dependent variable in Panel A is *Downside risk* which is defined as the mean implied volatility over the calendar year estimated from put options written on the BHC's stock. The dependent variable in Panel B is *Aggregate risk* which is defined as the standard deviation of weekly return on the BHC's stock over the calendar year. We estimate the regressions on a panel that has one observation for each BHC-year combination, and spans the time period 1995–2010. All other variables are defined in Appendix B. We include year fixed effects in all specifications, size decile fixed effects in column (4), and BHC fixed effects in column (5). Standard errors (reported in parentheses) are robust to heteroskedasticity and are clustered at the level of the BHC. We use the symbols ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Relationship between *Downside risk*$_t$ and *RMI*$_{t-1}$

	Downside risk$_t$				
	(1)	(2)	(3)	(4)	(5)
RMI$_{t-1}$	-0.073*	-0.105***	-0.075***	-0.108***	-0.160**
	(0.038)	(0.026)	(0.023)	(0.026)	(0.077)
Size$_{t-1}$	-0.016	-0.017	-0.024**		0.030
	(0.011)	(0.011)	(0.010)		(0.038)
Size$^2_{t-1}$	0.011	0.011	0.021**		0.002
	(0.007)	(0.008)	(0.010)		(0.014)
ROA$_{t-1}$	-3.940***	-4.461***	-5.902***	-4.170***	-4.815***
	(1.022)	(0.945)	(1.815)	(0.997)	(1.277)
Annual return$_{t-1}$	-0.078***	-0.069***	-0.062**	-0.079***	-0.070***
	(0.023)	(0.025)	(0.030)	(0.024)	(0.023)
(Deposits/Assets)$_{t-1}$	0.039	0.030	-0.056	0.042	0.300***
	(0.061)	(0.062)	(0.130)	(0.065)	(0.107)
(ST borrowing/Assets)$_{t-1}$	-0.190	0.085	0.002	0.048	0.111
	(0.243)	(0.140)	(0.158)	(0.136)	(0.150)
(Tier-1 capital/Assets)$_{t-1}$	1.131***	1.272***	1.786***	1.178***	1.459**
	(0.322)	(0.306)	(0.635)	(0.317)	(0.616)
(Loans/Assets)$_{t-1}$	-0.082	-0.147**	-0.134*	-0.157**	0.006
	(0.077)	(0.066)	(0.073)	(0.062)	(0.106)
(Bad loans/Assets)$_{t-1}$	7.296***	6.814***	6.323***	6.471***	7.408***
	(1.900)	(1.749)	(1.589)	(1.705)	(1.886)
(Non-int. income/Income)$_{t-1}$	-0.024	-0.083	-0.000	-0.091	-0.132
	(0.058)	(0.067)	(0.062)	(0.069)	(0.185)
(Deriv. trading/Assets)$_{t-1}$		-0.000	-0.001	0.000	0.000
		(0.001)	(0.001)	(0.001)	(0.002)
(Deriv. hedging/Assets)$_{t-1}$		-0.003	0.004	-0.002	0.003
		(0.022)	(0.025)	(0.021)	(0.025)
Inst. ownership$_{t-1}$		0.069**	0.051	0.059*	0.118**
		(0.031)	(0.038)	(0.030)	(0.051)
G-Index$_{t-1}$		0.002	0.003	0.003	0.010
		(0.002)	(0.003)	(0.002)	(0.006)
Change in CEO$_{t-1}$		-0.020	-0.043***	-0.018	-0.029
		(0.016)	(0.015)	(0.017)	(0.021)

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Table continued...

	Downside risk$_t$				
	(1)	(2)	(3)	(4)	(5)
Large M&A$_{t-1}$		0.000	0.000	-0.002	-0.003
		(0.010)	(0.014)	(0.009)	(0.010)
CEO's delta$_{t-1}$			0.750		
			(0.662)		
CEO's vega$_{t-1}$			-0.015		
			(0.021)		
CEO's tenure$_{t-1}$			-0.000		
			(0.001)		
Constant	0.515***	0.401***	0.610***	0.441***	0.151
	(0.057)	(0.062)	(0.108)	(0.074)	(0.139)
Observations	562	491	318	491	491
R^2	0.651	0.796	0.807	0.803	0.862
Year FE	Yes	Yes	Yes	Yes	Yes
Size decile FE	No	No	No	Yes	No
BHC FE	No	No	No	No	Yes

Panel B: Relationship between *Aggregate risk*$_t$ and *RMI*$_{t-1}$

	Aggregate risk$_t$				
	(1)	(2)	(3)	(4)	(5)
RMI$_{t-1}$	-0.010**	-0.009**	-0.009**	-0.009**	-0.033***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.011)
Size$_{t-1}$	0.002	0.001	0.003		0.001
	(0.001)	(0.002)	(0.002)		(0.006)
Size$^2_{t-1}$	0.002	0.002**	0.005***		0.004*
	(0.001)	(0.001)	(0.002)		(0.002)
ROA$_{t-1}$	-0.618***	-0.608***	-0.991***	-0.554***	-0.642***
	(0.165)	(0.154)	(0.234)	(0.156)	(0.228)
Annual return$_{t-1}$	-0.014***	-0.012***	-0.015***	-0.013***	-0.013***
	(0.004)	(0.003)	(0.005)	(0.003)	(0.003)
(Deposits/Assets)$_{t-1}$	-0.007	-0.011	0.015	-0.016	0.013
	(0.010)	(0.011)	(0.013)	(0.011)	(0.022)
(ST borrowing/Assets)$_{t-1}$	0.005	0.016	0.008	0.011	0.029
	(0.020)	(0.022)	(0.033)	(0.021)	(0.028)
(Tier-1 capital/Assets)$_{t-1}$	0.151***	0.151***	-0.080	0.128***	0.138**
	(0.042)	(0.039)	(0.123)	(0.040)	(0.065)
(Loans/Assets)$_{t-1}$	-0.007	-0.016**	-0.020*	-0.020***	-0.021
	(0.009)	(0.007)	(0.010)	(0.006)	(0.018)
(Bad loans/Assets)$_{t-1}$	1.012***	1.124***	1.442**	1.096***	0.927***
	(0.219)	(0.208)	(0.542)	(0.204)	(0.347)
(Non-int. income/Income)$_{t-1}$	-0.009	-0.025**	-0.021*	-0.028**	-0.044
	(0.010)	(0.011)	(0.011)	(0.012)	(0.027)
(Deriv. trading/Assets)$_{t-1}$		-0.000**	-0.001***	0.000	0.000
		(0.000)	(0.000)	(0.000)	(0.000)
(Deriv. hedging/Assets)$_{t-1}$		-0.004	-0.007	-0.000	-0.003
		(0.005)	(0.005)	(0.005)	(0.007)
Inst. ownership$_{t-1}$		0.020***	0.022***	0.018***	0.016**
		(0.004)	(0.006)	(0.005)	(0.007)
G-Index$_{t-1}$		0.000	0.000	0.000	0.001
		(0.000)	(0.000)	(0.000)	(0.001)
Change in CEO$_{t-1}$		0.003	-0.001	0.003	-0.000
		(0.003)	(0.003)	(0.003)	(0.003)
Large M&A$_{t-1}$		0.003**	-0.001	0.003*	-0.001
		(0.001)	(0.002)	(0.001)	(0.002)
CEO's delta$_{t-1}$			-0.009		
			(0.049)		
CEO's vega$_{t-1}$			-0.010***		
			(0.003)		
CEO's tenure$_{t-1}$			-0.000		
			(0.000)		
Constant	0.092***	0.091***	0.071***	0.104***	0.064***
	(0.012)	(0.013)	(0.016)	(0.014)	(0.018)
Observations	803	701	368	701	701
R^2	0.780	0.819	0.852	0.822	0.863
Year FE	Yes	Yes	Yes	Yes	Yes
Size decile FE	No	No	No	Yes	No
BHC FE	No	No	No	No	Yes

Table IA.V: Relationship between RMI and Performance

(Unabridged version of Table VI in the paper)

This table reports the results of panel regressions investigating the relationship between a BHC's performance and its *RMI*. We estimate the following regression:

$$\mathrm{Y}_{j,t} = \alpha + \beta * \mathrm{RMI}_{j,t-1} + \gamma * X_{j,t-1} + \text{BHC or Size Decile FE} + \text{Year FE}$$

In this regression, Y is a measure of the BHC's operating performance (in columns (1) through (3)) or stock return performance (in columns (4) through (9)). We measure operating performance using *ROA* which is the ratio of income before extraordinary items to assets. We measure stock return performance using the following variables: *Annual return*, which is the buy-and-hold return on the BHC's stock over the calendar year; and *Abnormal return* which is the difference between the actual *Annual return* and the expected return from a market model, where the market model is estimated by regressing daily returns on the BHC's stock versus a constant and daily returns on the S&P500 over the past three calendar years. *Crisis year* is a dummy variable that identifies the financial crisis years, 2007 and 2008. All other variables are defined in Appendix B of the paper. We include year fixed effects and either size decile fixed effects or BHC fixed effects in all specifications. Standard errors (reported in parentheses) are robust to heteroskedasticity and are clustered at the BHC level. We use the symbols ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	ROA_t			Annual return$_t$			Abnormal return$_t$		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
RMI_{t-1}	0.006**		0.007*	0.072**		0.037	0.075**		0.074
	(0.002)		(0.004)	(0.032)		(0.121)	(0.032)		(0.115)
Crisis year		0.008***			-0.295***			-0.731***	
		(0.002)			(0.036)			(0.041)	
RMI_{t-1}*crisis year		0.010***			0.157**			0.147**	
		(0.004)			(0.073)			(0.072)	
RMI_{t-1}*(1-crisis year)		0.005*			0.048			0.054	
		(0.002)			(0.035)			(0.035)	
$Size_{t-1}$			-0.000			-0.165***			-0.153***
			(0.001)			(0.037)			(0.038)
ROA_{t-1}				2.043	2.076	0.271	2.222	2.250	0.753
				(1.981)	(1.953)	(2.420)	(1.872)	(1.850)	(2.370)
Annual return$_{t-1}$	0.005**	0.005**	0.004*						
	(0.002)	(0.002)	(0.002)						
$(Deposits/Assets)_{t-1}$	-0.011**	-0.011**	-0.003	0.049	0.045	-0.041	0.063	0.060	0.064
	(0.005)	(0.005)	(0.007)	(0.080)	(0.078)	(0.194)	(0.082)	(0.080)	(0.206)
$(Tier\text{-}1\ capital/Assets)_{t-1}$	0.266***	0.266***	0.175	-0.271	-0.278	0.029	-0.332	-0.338	0.182
	(0.026)	(0.026)	(0.111)	(0.559)	(0.553)	(1.062)	(0.524)	(0.519)	(0.999)
$(Loans/Assets)_{t-1}$	0.003	0.003	0.008	-0.200***	-0.198***	-0.188	-0.233***	-0.231***	-0.263
	(0.003)	(0.003)	(0.007)	(0.067)	(0.066)	(0.188)	(0.066)	(0.065)	(0.212)
$(Bad\ loans/Assets)_{t-1}$	-0.591***	-0.586***	-0.717***	-0.640	-0.490	1.759	0.650	0.777	3.091
	(0.150)	(0.148)	(0.204)	(3.897)	(3.860)	(4.529)	(3.848)	(3.817)	(4.399)
Constant	-0.017***	-0.014**	-0.002	0.224***	0.263***	3.367***	0.645***	0.687***	2.963***
	(0.006)	(0.006)	(0.027)	(0.063)	(0.067)	(0.671)	(0.069)	(0.071)	(0.707)
Observations	805	805	805	804	804	804	803	803	803
R^2	0.726	0.728	0.802	0.523	0.525	0.565	0.572	0.573	0.605
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Size decile FE	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No
BHC FE	No	No	Yes	No	No	Yes	No	No	Yes

Table IA.VI: Instrumental-Variables Regressions

(Unabridged version of Table VII in the paper)

Panel A reports the results of instrumental-variables regressions that examine whether BHCs with high *Pre-crisis RMI* fared better during the crisis years. We instrument for each BHC's *Pre-crisis RMI* using its *Comparable* $\Delta RMI_{1998-00}$, which is defined as the average increase in RMI over the period 1998 to 2000 for *all other BHCs* (i.e., excluding the BHC itself) in the size decile to which the BHC belonged in 1998. The regressions are estimated using the two-staged least squares (2SLS) estimator, and are confined to the crisis years, 2007 and 2008. The results of the first-stage regression are presented in column (1), whereas the results of the second-stage regressions are presented in columns (2) through (4). Definitions of variables are listed in Appendix B of the paper. We include year fixed effects in all specifications. Standard errors (reported in parentheses) are robust to heteroskedasticity and are clustered at the BHC level. We use the symbols ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel B reports the results of an instrumental-variables panel regression that examines the relationship between BHCs' *Tail risk*$_t$ and RMI_{t-1}. We estimate the regressions on a panel that has one observation for each BHC-year combination, and spans the time period 2001 to 2010. We instrument for each BHC's RMI_{t-1} using its *Comparable BHCs'* $\Delta RMI_{1998-00}$, which is defined as the average increase in RMI over the period 1998-2000 for *all other BHCs* (i.e., excluding the BHC itself) in the size decile to which the BHC belonged in 1998. The regressions are estimated using the two-staged least squares (2SLS) estimator. The results of the first- and second-stage regressions are presented in columns (1) and (2), respectively. We include year fixed effects in the regression. Standard errors (reported in parentheses) are robust to heteroskedasticity, and are clustered at the BHC level. We use the symbols ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: RMI in 2006 and Performance During Crisis Years

	(1) Pre-crisis RMI	(2) ROA	(3) Annual return	(4) Tail risk
Pre-crisis RMI		0.018*	0.582**	-0.049*
		(0.010)	(0.271)	(0.027)
Comparable BHCs' $\Delta\text{RMI}_{1998-00}$	1.603***			
	(0.474)			
Size_{2006}	0.192***	-0.005	-0.204**	0.012*
	(0.049)	(0.003)	(0.081)	(0.007)
Size^2_{2006}	-0.123***	0.001	0.079	-0.005
	(0.037)	(0.002)	(0.051)	(0.004)
ROA_{2006}	-0.138	0.739***	4.187	-0.696
	(6.478)	(0.279)	(6.285)	(0.640)
$(\text{Tier-1 capital/Assets})_{2006}$	-5.721**	-0.162	2.314	-0.142
	(2.765)	(0.103)	(2.950)	(0.273)
$(\text{Bad loans/Assets})_{2006}$	2.416	-0.332	-9.364	0.913
	(6.902)	(0.389)	(8.496)	(0.925)
$(\text{Deposits/Assets})_{2006}$	0.200	0.009	0.209	-0.015
	(0.322)	(0.012)	(0.319)	(0.030)
$(\text{Loans/Assets})_{2006}$	0.272	-0.009	-0.500**	0.018
	(0.182)	(0.010)	(0.231)	(0.020)
Constant	0.578**	-0.008	-0.583*	0.158***
	(0.259)	(0.010)	(0.326)	(0.027)
Observations	116	116	116	116
R^2	0.428	0.348	0.146	0.699
F-stat (p-value) of excluded instrument	13.61 (0.0004)			

Panel B: Relationship between *Tail risk*$_t$ and *RMI*$_{t-1}$, 2001–2010

	(1)	(2)
	RMI_{t-1}	Tail risk_t
RMI_{t-1}		-0.021*
		(0.012)
Comparable BHCs' $\Delta\text{RMI}_{1998-00}$	1.736***	
	(0.571)	
Size_{t-1}	0.142**	0.003
	(0.058)	(0.003)
Size^2_{t-1}	-0.086***	0.001
	(0.031)	(0.001)
ROA_{t-1}	1.571	-0.958***
	(3.511)	(0.260)
Annual return_{t-1}	0.046	-0.011***
	(0.041)	(0.004)
$(\text{Deposits/Assets})_{t-1}$	0.064	0.016
	(0.279)	(0.010)
$(\text{Tier-1 capital/Assets})_{t-1}$	-2.206	0.044
	(1.632)	(0.073)
$(\text{Loans/Assets})_{t-1}$	0.097	-0.011
	(0.237)	(0.010)
$(\text{Bad loans/Assets})_{t-1}$	1.300	1.275***
	(3.990)	(0.435)
$(\text{Non-int. income/Income})_{t-1}$	-0.060	-0.006
	(0.268)	(0.008)
Constant	0.518*	0.097***
	(0.291)	(0.013)
Observations	524	524
R^2	0.420	0.840
F-stat (p-value) of excluded instrument	9.352 (0.0033)	
Year FE	Yes	Yes

Table IA.VII: Dynamic Panel GMM Estimation for the Relationship between Risk and RMI

(Unabridged version of Table VIII in the paper)

In this table, we report the results of the Arellano and Bond (1991) dynamic panel GMM estimator to investigate the relationship between *Tail risk*$_t$ and RMI_{t-1}. The model we estimate is

$$\text{Tail risk}_{j,t} = \alpha + \beta * \text{RMI}_{j,t-1} + \kappa_1 \text{Tail risk}_{j,t-1} + \kappa_2 \text{Tail risk}_{j,t-2} + \gamma * X_{j,t-1} + \eta_i + \epsilon_{it}$$

The model employs two lags of *Tail risk* as regressor variables; i.e., BHC characteristics that are lagged three periods or more are available for use as exogenous instruments. Variable definitions are in Appendix B of the paper. Standard errors are reported in parentheses. We use the symbols ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Y Variable=	Tail risk (1)	Downside risk (2)
RMI_{t-1}	-0.097***	-0.540***
	(0.014)	(0.072)
Y_{t-1}	0.196**	0.119
	(0.092)	(0.089)
Y_{t-2}	-0.335***	-0.357***
	(0.067)	(0.059)
Size_{t-1}	0.011**	0.013
	(0.006)	(0.057)
Size^2_{t-1}	0.016***	0.026
	(0.006)	(0.032)
ROA_{t-1}	-0.618	-6.102**
	(0.391)	(2.994)
$\text{Annual return}_{t-1}$	-0.012***	-0.099***
	(0.002)	(0.020)
$(\text{Deposits/Assets})_{t-1}$	-0.046**	-0.083
	(0.020)	(0.183)
$(\text{Tier-1 capital/Assets})_{t-1}$	-0.709***	-4.089*
	(0.127)	(2.145)
$(\text{Loans/Assets})_{t-1}$	0.049*	-0.501
	(0.027)	(0.411)
$(\text{Bad loans/Assets})_{t-1}$	3.983***	20.124***
	(0.784)	(3.508)
$(\text{Non-int. income/Income})_{t-1}$	-0.101***	-0.444**
	(0.012)	(0.195)
$\text{Inst. ownership}_{t-1}$	0.040***	0.219***
	(0.011)	(0.072)
G-Index_{t-1}	-0.003**	-0.003
	(0.001)	(0.013)
$(\text{Deriv. trading/Assets})_{t-1}$	0.003***	0.008
	(0.001)	(0.006)
$(\text{Deriv. hedging/Assets})_{t-1}$	-0.003	-0.052
	(0.008)	(0.038)
CEO's delta_{t-1}	0.092	-1.234
	(0.125)	(2.326)

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Table continued...

Y Variable=	Tail risk (1)	Downside risk (2)
CEO's vega$_{t-1}$	0.013***	0.057**
	(0.004)	(0.027)
Change in CEO$_{t-1}$	0.002	-0.037
	(0.004)	(0.025)
Large M&A$_{t-1}$	-0.009***	-0.033**
	(0.002)	(0.013)
Constant	0.189***	1.555***
	(0.027)	(0.271)
Observations	338	255
Sargan χ^2	37.184	29.960
Sargan p-value	1.000	1.000

Table IA.IX: Relationship between Risk and RMI after Inclusion of Investment Banks in the Sample

In this table, we replicate our crisis-period results (Table IV in the paper) and panel regression results (Table V in the paper) after adding the following ten investment banks (in alphabetical order) to our sample: Ameriprise Financial Inc., Bear Stearns Companies Inc., Credit Suisse Group, Goldman Sachs Group Inc., Legg Mason Inc., Lehman Brothers Holdings Inc., Merrill Lynch & Co Inc., MF Global Holdings Ltd., Morgan Stanley, and Nomura Holdings Inc. The dummy variable *Investment bank* identifies the investment banks in the sample; i.e., *Investment bank*= 0 for the BHCs in the sample. *(EBT/Assets)* is the ratio of earnings before tax to total assets. *Leverage* is the ratio of total debt (sum of Compustat items 'dltt' and 'dlc') to total assets. *ST debt/Assets* is the ratio of debt due within the year (Compustat item 'dlc') to total assets. All other variables are defined in Appendix B of the paper.

Panel A reports the results of the following cross-sectional regressions that examine whether firms with higher *Pre-Crisis RMI* fared better during the financial crisis years, 2007 and 2008:

$$Y_{j,t} = \alpha + \beta * \text{Pre-crisis RMI}_j + \boldsymbol{\gamma} * X_{j,2006} + \text{Year FE}$$

We estimate these regressions only for the crisis years 2007 and 2008, and include year fixed effects in all specifications. Standard errors (reported in parentheses) are robust to heteroskedasticity and are clustered at the firm level. We use the symbols ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel B reports the results of the following panel regressions that investigate the relationship between $Tail\ risk_t$ and RMI_{t-1}:

$$\text{Tail risk}_{j,t} = \alpha + \beta * \text{RMI}_{j,t-1} + \gamma * X_{j,t-1} + \text{Firm FE} + \text{Year FE}$$

The regressions are estimated on a panel that includes 72 BHCs and 10 investment banks, and spans the time period 1995–2010. We include year fixed effects in both specifications, and firm fixed effects in column (2). Standard errors (reported in parentheses) are robust to heteroskedasticity and are clustered at the level of the individual firm. We use the symbols ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Pre-crisis RMI and performance during crisis years

	EBT/Assets	Annual return	Tail risk	Downside risk
	(1)	(2)	(3)	(4)
Pre-crisis RMI	-0.001	0.261***	-0.025***	-0.169***
	(0.011)	(0.080)	(0.008)	(0.058)
Size_{2006}	-0.010*	-0.099**	0.010**	0.002
	(0.005)	(0.044)	(0.004)	(0.034)
Size^2_{2006}	-0.002	0.014	0.000	0.006
	(0.005)	(0.035)	(0.004)	(0.027)
$(\text{EBT/Assets})_{2006}$		0.015	-0.074	-0.559**
		(0.490)	(0.055)	(0.213)
$\text{Annual return}_{2006}$	0.115**		-0.057**	-0.122
	(0.046)		(0.028)	(0.146)
Leverage_{2006}	0.026	-0.247	0.008	-0.186
	(0.038)	(0.373)	(0.045)	(0.234)
$(\text{ST debt/Assets})_{2006}$	0.023	0.161	0.011	0.247
	(0.048)	(0.596)	(0.073)	(0.252)
Investment bank	-0.054**	0.013	-0.015**	0.027
	(0.025)	(0.075)	(0.007)	(0.042)
Constant	-0.015	-0.403***	0.136***	0.831***
	(0.012)	(0.081)	(0.009)	(0.080)
Observations	152	152	152	129
R^2	0.211	0.146	0.702	0.671
Year FE	Yes	Yes	Yes	Yes

Panel B: Relationship between *Tail risk*$_t$ and *RMI*$_{t-1}$

	(1)	(2)
	Tail risk	Tail risk
RMI$_{t-1}$	-0.010***	-0.014*
	(0.003)	(0.007)
Size$_{t-1}$	-0.001	0.004
	(0.001)	(0.003)
Size$^2_{t-1}$	0.004***	0.004**
	(0.001)	(0.002)
(EBT/Assets)$_{t-1}$	-0.092	-0.086
	(0.068)	(0.112)
Annual Return$_{t-1}$	-0.012***	-0.011***
	(0.003)	(0.003)
Leverage$_{t-1}$	-0.002	-0.011
	(0.013)	(0.013)
(ST debt/Assets)$_{t-1}$	0.021	0.008
	(0.016)	(0.020)
Investment bank	-0.004	
	(0.003)	
Constant	0.115***	0.041***
	(0.005)	(0.005)
Observations	1011	1011
R^2	0.767	0.824
Year FE	Yes	Yes
Firm FE	No	Yes

Table IA.X: Impact of CRO Centrality and Quality of Risk Oversight

In this table, we replicate our crisis-period results (Table IV in the paper) and panel regression results (Table V in the paper) after replacing RMI with two variables: *CRO centrality* to proxy for the CRO's power within the BHC; and *Quality of oversight* to proxy for the quality of risk oversight by the BHC's board of directors, and which is defined as the simple average of the two dummy variables, *Risk committee experience* and *Active risk committee*. Variable definitions are in Appendix B of the paper.

Panel A reports the results of the following cross-sectional regressions that examine whether BHCs with higher *CRO centrality* and higher *Quality of oversight* in 2006 fared better during the crisis years:

$$Y_{j,t} = \alpha + \beta_1 * \text{CRO Centrality}_{2006} + \beta_2 * \text{Quality of Oversight}_{2006} + \boldsymbol{\gamma} * X_{j,2006} + \text{Year FE}$$

We include year fixed effects in all specifications. Standard errors (reported in parentheses) are robust to heteroskedasticity and are clustered at the BHC level. We use the symbols ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel B reports the results of the following panel regressions examining the impact of $CRO\ centrality_{t-1}$ and $Quality\ of\ oversight_{t-1}$ on $Tail\ risk_t$:

$$\text{Tail risk}_{j,t} = \alpha + \beta_1 * \text{CRO Centrality}_{j,t-1} + \beta_2 * \text{Quality of Oversight}_{j,t-1} + \gamma * X_{j,t-1} + \text{BHC FE} + \text{Year FE}$$

We estimate the regressions on a panel that has one observation for each BHC-year combination, and spans the time period 1995–2010. We include year fixed effects in both specifications, and BHC fixed effects in column (2). Standard errors (reported in parentheses) are robust to heteroskedasticity and are clustered at the level of the BHC. We use the symbols ***, **, and * to denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Performance during crisis years

	(1)	(2)	(3)	(4)	(5)	(6)
	Private MBS	Deriv. trading	Bad loans/Assets	ROA	Annual return	Tail risk
CRO centrality$_{2006}$	-12.256	9.857	-0.026	0.030**	0.225	-0.033
	(9.268)	(9.323)	(0.018)	(0.013)	(0.265)	(0.029)
Quality of oversight$_{2006}$	1.439	1.132	-0.008**	0.003	0.220***	-0.015*
	(1.465)	(1.194)	(0.003)	(0.003)	(0.072)	(0.008)
Size$_{2006}$	1.948***	-0.583	0.002	-0.005***	-0.151***	0.005
	(0.607)	(0.639)	(0.002)	(0.002)	(0.046)	(0.005)
Size$^2_{2006}$	7.369***	10.347***	-0.001	0.001	0.059	-0.004
	(2.121)	(2.310)	(0.001)	(0.001)	(0.037)	(0.004)
ROA$_{2006}$	239.253**	-236.068	0.050	0.987***	0.466	-0.066
	(103.541)	(146.053)	(0.211)	(0.203)	(4.568)	(0.530)
(Tier-1 capital/Assets)$_{2006}$	-89.813***	78.492*	-0.010	0.024	-0.247	-0.061
	(31.369)	(44.426)	(0.055)	(0.062)	(1.424)	(0.158)
(Bad loans/Assets)$_{2006}$	58.431	-103.211	3.032***	-0.433	-14.517*	2.087**
	(115.917)	(185.565)	(0.984)	(0.396)	(8.033)	(1.010)
(Deposits/Assets)$_{2006}$	-5.754	11.705	0.026	-0.015	0.067	-0.034
	(4.246)	(7.197)	(0.028)	(0.011)	(0.264)	(0.026)
(Loans/Assets)$_{2006}$	-9.827***	-4.535	-0.018	-0.014	-0.258	-0.003
	(2.872)	(3.658)	(0.023)	(0.010)	(0.204)	(0.019)
Constant	20.988***	-6.278	0.012	-0.003	-0.162	0.152***
	(4.930)	(7.806)	(0.009)	(0.006)	(0.232)	(0.020)
Observations	137	137	137	137	137	137
R^2	0.745	0.647	0.428	0.801	0.226	0.676
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Panel B: Panel regressions, 1995–2010

	Tail risk$_t$	
	(1)	(2)
CRO centrality$_{t-1}$	-0.016*	-0.015
	(0.009)	(0.014)
Quality of oversight$_{t-1}$	-0.000	-0.001
	(0.003)	(0.003)
Size$_{t-1}$	0.000	0.005
	(0.002)	(0.006)
Size$^2_{t-1}$	0.003***	0.006***
	(0.001)	(0.002)
ROA$_{t-1}$	-0.762***	-0.745**
	(0.204)	(0.284)
Annual return$_{t-1}$	-0.009***	-0.007***
	(0.003)	(0.003)
(Deposits/Assets)$_{t-1}$	-0.009	0.041**
	(0.011)	(0.020)
(ST borrowing/Assets)$_{t-1}$	0.015	0.037
	(0.019)	(0.027)
(Tier-1 capital/Assets)$_{t-1}$	0.192***	0.228***
	(0.052)	(0.079)
(Loans/Assets)$_{t-1}$	-0.021***	-0.032
	(0.007)	(0.021)
(Bad loans/Assets)$_{t-1}$	1.151***	0.899**
	(0.270)	(0.420)
(Non-int. income/Income)$_{t-1}$	-0.020*	-0.050**
	(0.011)	(0.019)
(Deriv. trading/Assets)$_{t-1}$	-0.000***	0.000
	(0.000)	(0.001)
(Deriv. hedging/Assets)$_{t-1}$	-0.001	-0.001
	(0.005)	(0.007)
Inst. ownership$_{t-1}$	0.015***	0.018**
	(0.004)	(0.008)
G-Index$_{t-1}$	0.000	0.002*
	(0.000)	(0.001)
Change in CEO$_{t-1}$	0.003	0.002
	(0.003)	(0.003)
Large M&A$_{t-1}$	0.002	-0.002
	(0.001)	(0.002)
Constant	0.096***	0.028
	(0.014)	(0.019)
Observations	701	701
R^2	0.837	0.875
Year FE	Yes	Yes
BHC FE	No	Yes