

Internet Appendix to
Procyclicality of US Bank Leverage

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December 20, 2016

Table of Contents

Internet Appendix A: Descriptive Statistics by Bank Type

Internet Appendix B: The Crisis of 2007-2009 and Government Interventions

Internet Appendix C: Alternative Measures of Banks' Business Model

Internet Appendix D: Derivatives and AfS Equity Securities

Internet Appendix E: Additional Tests

Internet Appendix A: Descriptive Statistics by Bank Type

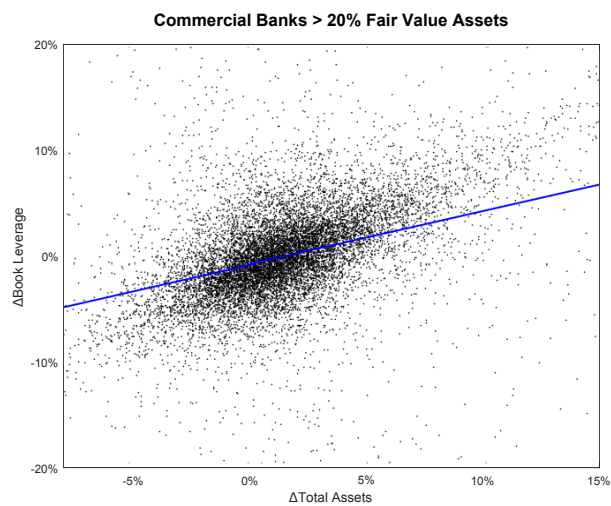
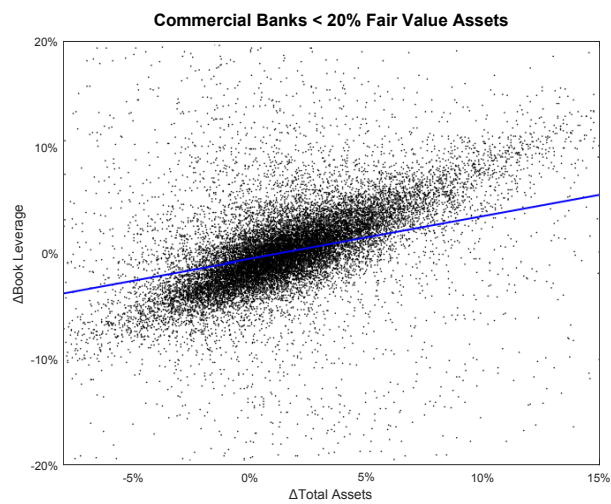
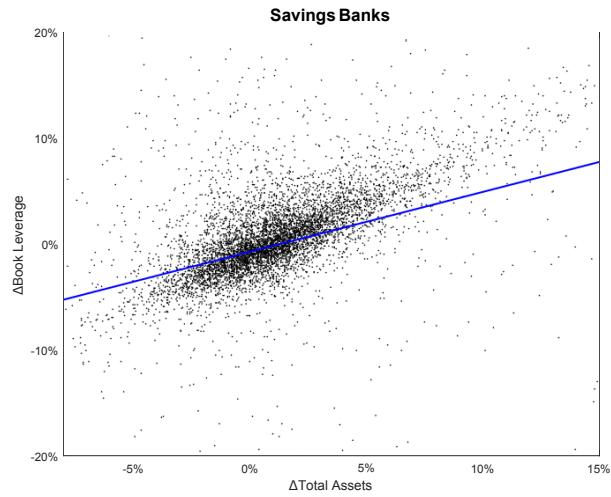
Table IA1: Summary Statistics by Bank Type

This table reports descriptive statistics for key variables of our empirical analysis by bank type. We report the number of observations (N), mean, standard deviation (SD), 1% quantile, 25% quantile ($Q_{0.25}$), median, 75% quantile ($Q_{0.75}$), and 99% quantile ($Q_{0.99}$). Panels A to C list the descriptive statistics of bank-level variables for savings banks, commercial banks < 20% fair value assets, and commercial banks > 20% fair value assets. The fraction of fair value assets equals the sum of trading assets and AfS securities divided by total assets. Variables are defined in Table A1. Bank fundamentals are obtained from *SNL Financial*. Real GDP is retrieved from the homepage of the *Bureau of Economic Analysis*. This sample covers US commercial and savings banks during the time period Q1-1994 to Q1-2013.

	N	Mean	SD	$Q_{0.01}$	$Q_{0.25}$	Median	$Q_{0.75}$	$Q_{0.99}$
Panel A: Savings Banks								
Δ Total Assets [%]	7116	1.50	4.37	-8.17	-0.77	0.91	2.84	22.61
Δ Book Leverage [%]	7116	0.24	7.12	-29.30	-1.85	0.26	2.88	22.25
Δ Risk Weight [%]	4836	0.25	3.65	-11.53	-1.46	0.34	2.01	10.53
Δ Goodwill [%]	6243	0.07	1.86	-5.23	0.00	0.00	0.00	9.39
Unrealized Gains AfS [%o]	6450	0.02	1.31	-5.20	-0.36	0.00	0.45	4.24
Net Income [%o]	7094	1.33	2.15	-9.55	0.80	1.64	2.37	5.49
Realized Gains Loans [%o]	6591	0.39	0.89	-0.07	0.00	0.06	0.33	5.05
Realized Gains AfS & HtM [%o]	7045	0.06	0.41	-1.74	0.00	0.00	0.04	1.74
Residual Net Income [%o]	5943	0.79	2.47	-12.05	0.37	1.25	1.96	4.91
Total Capital Ratio _{t-1} [%]	5421	18.21	6.77	10.08	13.15	16.13	21.34	36.10
Book Leverage _{t-1}	7116	10.15	3.54	4.52	7.69	9.83	12.14	21.72
q _{t-1}	6577	1.17	0.61	0.18	0.78	1.07	1.44	3.57
Bank Size _{t-1}	7116	20.34	1.21	18.85	19.39	20.06	20.95	23.94
Panel B: Commercial Banks < 20% FV Assets								
Δ Total Assets [%]	21346	2.05	4.51	-7.97	-0.39	1.49	3.67	23.51
Δ Book Leverage [%]	21346	0.18	6.58	-27.44	-2.23	0.01	2.57	23.92
Δ Risk Weight [%]	16949	0.02	3.28	-11.00	-1.57	0.14	1.73	10.04
Δ Goodwill [%]	20711	0.10	2.58	-12.69	0.00	0.00	0.00	13.89
Unrealized Gains AfS [%o]	18390	0.03	1.01	-3.20	-0.39	0.01	0.49	2.67
Net Income [%o]	21180	1.83	2.50	-10.81	1.29	2.31	3.12	5.85
Realized Gains Loans [%o]	18760	0.32	0.74	-0.07	0.00	0.06	0.30	5.05
Realized Gains AfS & HtM [%o]	21101	0.04	0.33	-1.61	0.00	0.00	0.02	1.41
Residual Net Income [%o]	18076	1.38	2.78	-12.16	0.81	1.99	2.85	5.35
Total Capital Ratio _{t-1} [%]	19369	13.94	3.58	9.00	11.67	13.14	15.08	28.66
Book Leverage _{t-1}	21346	11.51	3.10	5.32	9.60	11.11	12.97	23.46
q _{t-1}	19535	1.41	0.73	0.17	0.89	1.33	1.81	3.87
Bank Size _{t-1}	21346	20.54	1.46	18.87	19.49	20.13	21.14	25.39
Panel C: Commercial Banks > 20% FV Assets								
Δ Total Assets [%]	13286	1.79	4.28	-8.09	-0.48	1.28	3.26	20.75
Δ Book Leverage [%]	13286	-0.02	6.06	-20.84	-2.72	-0.27	2.53	21.22
Δ Risk Weight [%]	11183	0.05	3.39	-11.33	-1.69	0.16	1.87	10.45
Δ Goodwill [%]	12867	0.17	2.57	-10.40	0.00	0.00	0.00	14.20
Unrealized Gains AfS [%o]	11627	0.07	2.08	-5.31	-1.07	0.08	1.37	4.65
Net Income [%o]	13205	2.19	1.96	-7.21	1.64	2.47	3.16	5.56
Realized Gains Loans [%o]	11555	0.22	0.52	-0.04	0.00	0.03	0.22	2.75
Realized Gains AfS & HtM [%o]	13172	0.11	0.42	-1.74	0.00	0.00	0.16	1.74
Residual Net Income [%o]	11236	1.86	1.98	-6.91	1.25	2.16	2.91	5.35
Total Capital Ratio _{t-1} [%]	12510	15.60	4.04	9.68	12.83	14.81	17.29	31.00
Book Leverage _{t-1}	13286	11.42	3.00	5.62	9.42	11.03	12.86	22.37
q _{t-1}	12322	1.49	0.73	0.18	0.96	1.40	1.89	3.89
Bank Size _{t-1}	13286	20.77	1.61	18.88	19.69	20.33	21.31	27.28

Figure IA1: Book Leverage Growth and Total Asset Growth by Bank Type

This scatter plot shows the positive and highly significant relation between Δ Total Assets and Δ Book Leverage between Q1-1994 and Q1-2013 by bank type (7116 bank-quarter observations for savings banks, 21346 bank-quarter observations for commercial banks < 20% fair value assets, and 13286 bank-quarter observations for commercial banks > 20% fair value assets). The solid lines display the fitted values from OLS regressions of Δ Book Leverage on Δ Total Assets. The fraction of fair value assets equals the sum of trading assets and AfS securities divided by total assets. Δ Total Assets and Δ Book Leverage are defined as $\ln[\text{variable}_t] - \ln[\text{variable}_{t-1}]$ and the data is obtained from *SNL Financial*.



Internet Appendix B: The Crisis of 2007-2009 and Government Interventions

Table IA2: Changes in Total Assets During the Financial Crisis of 2007-2009

Panel A reports the estimation results for linear regressions of the quarterly growth rate of total assets (Δ Total Assets) on the quarterly growth rate of GDP (Δ GDP), distinguishing between economic expansions and contractions and focusing on the financial crisis of 2007-2009. In column [2], the interaction term between (Δ GDP) and $1_{\Delta\text{GDP}<0}$ only captures quarters during the crisis that had negative GDP growth. In column [3], the interaction captures all other quarters with negative GDP growth. In Panel B, we investigate which assets explain banks' balance sheet expansions in recessionary quarters during the financial crisis. The dependent variable is the quarterly growth rate of total assets (Δ Total Assets). The key explanatory variables are government sponsored capital injections in the form of TARP (TARP injections) and the quarterly growth rates of deposits (Δ Deposits), loan commitments (Δ Loan Commitments), as well as off-balance sheet securitized assets (Δ Sec. Assets). We differentiate between balance sheet expansions and contractions by forming interaction terms. Variables are defined in Table A1. Bank fundamentals are obtained from *SNL Financial* and real GDP is retrieved from the homepage of the *Bureau of Economic Analysis*. This sample covers US commercial and savings banks during the time period Q1-1994 to Q1-2013. Clustered standard errors at the bank level are given in parentheses. Significance is indicated by: *** < 0.01, ** < 0.05, * < 0.10.

Panel A	Full Sample	$1_{\Delta\text{GDP}<0}$ = only Crisis of 2007-2009	$1_{\Delta\text{GDP}<0}$ = excl. Crisis of 2007-2009
	[1]	[2]	[3]
	Δ Total Assets	Δ Total Assets	Δ Total Assets
Δ GDP * $1_{\Delta\text{GDP}>0}$	0.793*** (0.063)	0.794*** (0.062)	0.783*** (0.062)
Δ GDP * $1_{\Delta\text{GDP}<0}$	-0.651*** (0.092)	-0.683*** (0.101)	13.741*** (2.403)
$1_{\Delta\text{GDP}>0}$	0.001 (0.001)	0.001 (0.001)	-0.049*** (0.008)
Constant	0.016*** (0.001)	0.015*** (0.001)	0.067*** (0.008)
Observations	41748	40098	37791
R ²	0.081	0.084	0.085
Bank Fixed Effects	Yes	Yes	Yes
Quarter-Year Fixed Effects	No	No	No
Clustering Level	Bank	Bank	Bank

Panel B	Crisis of 2007-2009 & Δ GDP<0					
	[1]	[2]	[3]	[4]	[5]	[6]
	Δ Total Assets	Δ Total Assets	Δ Total Assets	Δ Total Assets	Δ Total Assets	Δ Total Assets
TARP Injections * $1_{\Delta TA > 0}$		0.473** (0.206)		0.666*** (0.141)	0.821*** (0.166)	1.287* (0.681)
TARP Injections * $1_{\Delta TA < 0}$		-0.052 (0.201)		0.090 (0.181)	-0.067 (0.201)	-0.491 (0.699)
Δ Deposits * $1_{\Delta TA > 0}$			0.552*** (0.024)	0.554*** (0.025)	0.572*** (0.037)	0.652*** (0.089)
Δ Deposits * $1_{\Delta TA < 0}$			0.186*** (0.034)	0.189*** (0.035)	0.171*** (0.050)	0.123 (0.160)
Δ Loan Commitments * $1_{\Delta TA > 0}$					0.019* (0.010)	0.032 (0.043)
Δ Loan Commitments * $1_{\Delta TA < 0}$					0.023** (0.010)	0.034 (0.090)
Δ Sec. Assets * $1_{\Delta TA > 0}$						0.004 (0.020)
Δ Sec. Assets * $1_{\Delta TA < 0}$						-0.003 (0.008)
$1_{\Delta \text{Total Assets (TA)} > 0}$		0.055*** (0.002)	0.033*** (0.001)	0.031*** (0.002)	0.029*** (0.002)	0.033*** (0.008)
Constant	0.015*** (0.001)	-0.023*** (0.002)	-0.011*** (0.001)	-0.010*** (0.001)	-0.009*** (0.002)	-0.029*** (0.009)
Observations	3957	3648	3951	3642	1808	166
R ²	0.293	0.534	0.767	0.767	0.772	0.811
Bank Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Quarter-Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustering Level	Bank	Bank	Bank	Bank	Bank	Bank

Table IA3: Relation between Book Leverage Growth and GDP Growth During the Financial Crisis of 2007-2009 This table reports the estimation results for a modified version of regression model (1b) focusing on the financial crisis of 2007-2009. The dependent variable is the quarterly growth rate of book leverage (Δ Book Leverage). The explanatory variables are the quarterly growth rate of GDP (Δ GDP), an indicator variable which is equal to one if bank i received TARP injections in quarter t ($\mathbb{1}_{\text{TARP_BANK_QRT}}$), and their interaction. Variables are defined in Table A1. Bank fundamentals are obtained from *SNL Financial* and real GDP is retrieved from the homepage of the *Bureau of Economic Analysis*. This sample covers US commercial and savings banks during the time period Q1-1994 to Q1-2013. Clustered standard errors at the bank level are given in parentheses. Significance is indicated by: *** < 0.01 , ** < 0.05 , * < 0.10 .

	Crisis of 2007-2009 & Δ GDP<0	
	[1]	[2]
	Δ Book Leverage	Δ Book Leverage
Δ GDP	1.755*** (0.230)	-0.395** (0.196)
Δ GDP * $\mathbb{1}_{\text{TARP_BANK_QRT}}$		9.611*** (0.678)
$\mathbb{1}_{\text{TARP_BANK_QRT}}$		-0.003 (0.009)
Constant	0.008*** (0.002)	-0.013*** (0.002)
Observations	3957	3957
R ²	0.190	0.384
Bank Fixed Effects	Yes	Yes
Quarter-Year Fixed Effects	No	No
Clustering Level	Bank	Bank

Table IA4: Book Leverage Growth and GDP Growth - The Role of Recessions and Government Interventions This table reports the estimation results for a modified version of regression model (4b). The dependent variable is the quarterly growth rate of book leverage (Δ Book Leverage). The key explanatory variables are the interaction terms between the quarterly growth rate of GDP (Δ GDP) and unrealized gains on AfS securities (Unrealized Gains AfS), net income (Net Income), the lagged total capital ratio (Total Capital Ratio $_{t-1}$), the quarterly growth rate of the average risk weight (Δ Risk Weight), and the lagged book leverage ratio (Book Leverage $_{t-1}$). For each interaction term, we distinguish between Δ GDP >0 and Δ GDP <0 to account for potential non-linearities in effects across up- and downswings. During downswings, we additionally distinguish between (i) bank-quarters in which the leverage of TARP banks was affected by direct government interventions and (ii) all other bank-quarters. Variables are defined in Table A1. For expositional purposes we multiply the accounting items with 1000 and Δ Risk Weight as well as Total Capital Ratio $_{t-1}$ with 100. Bank fundamentals are obtained from *SNL Financial* and real GDP is retrieved from the homepage of the *Bureau of Economic Analysis*. This sample covers US commercial and savings banks during the time period Q1-1994 to Q1-2013. Clustered standard errors at the bank level are given in parentheses. Significance is indicated by: *** < 0.01 , ** < 0.05 , * < 0.10 .

	Full Sample [1] Δ Book Leverage	Savings Banks [2] Δ Book Leverage	CB $< 20\%$ FV [3]* Δ Book Leverage	CB $> 20\%$ FV [4] Δ Book Leverage
Δ GDP	1.210** (0.578)	-1.724 (1.056)	1.754 [†] (0.929)	0.644 (0.931)
Δ GDP * Unrealized Gains AfS * 1_{Δ GDP $>0}$	-0.007 (0.063)	0.063 (0.240)	0.074 (0.142)	-0.057 (0.070)
Δ GDP * Unrealized Gains AfS * 1_{Δ GDP $<0}$	-0.026 (0.069)	-0.212 (0.163)	-0.212 [†] (0.121)	0.097 (0.081)
Δ GDP * Unrealized Gains AfS * 1_{Δ GDP $<0}$ * $1_{\text{TARP_BANK_QRT}}$	-0.309 [†] (0.187)	1.550** (0.636)	-0.526** (0.247)	0.215 (0.228)
Δ GDP * Net Income * 1_{Δ GDP $>0}$	0.022 (0.058)	0.176 (0.141)	-0.066 (0.078)	0.082 (0.120)
Δ GDP * Net Income * 1_{Δ GDP $<0}$	0.009 (0.057)	-0.174 [†] (0.090)	-0.006 (0.078)	0.156 (0.114)
Δ GDP * Net Income * 1_{Δ GDP $<0}$ * $1_{\text{TARP_BANK_QRT}}$	-0.004 (0.098)	1.313 (0.866)	0.047 (0.124)	-0.071 (0.158)
Δ GDP * Total Capital Ratio $_{t-1}$ * 1_{Δ GDP $>0}$	-0.069*** (0.018)	-0.005 (0.021)	-0.072** (0.036)	-0.055** (0.027)
Δ GDP * Total Capital Ratio $_{t-1}$ * 1_{Δ GDP $<0}$	-0.087*** (0.024)	0.034 (0.030)	-0.087 (0.059)	-0.181*** (0.057)
Δ GDP * Total Capital Ratio $_{t-1}$ * 1_{Δ GDP $<0}$ * $1_{\text{TARP_BANK_QRT}}$	-0.518*** (0.076)	-0.126 (0.402)	-0.629*** (0.106)	-0.557*** (0.147)
Δ GDP * Δ RWA * 1_{Δ GDP $>0}$	-0.017 (0.034)	-0.037 (0.083)	-0.065 (0.051)	0.060 (0.051)
Δ GDP * Δ RWA * 1_{Δ GDP $<0}$	0.004 (0.048)	0.007 (0.085)	0.049 (0.070)	-0.064 (0.071)
Δ GDP * Δ RWA * 1_{Δ GDP $<0}$ * $1_{\text{TARP_BANK_QRT}}$	-0.070 (0.071)	1.039*** (0.282)	-0.084 (0.098)	0.024 (0.122)
Δ GDP * Book Leverage $_{t-1}$ * 1_{Δ GDP $>0}$	-0.022 (0.034)	0.148 (0.090)	-0.033 (0.051)	-0.028 (0.053)
Δ GDP * Book Leverage $_{t-1}$ * 1_{Δ GDP $<0}$	-0.023 (0.043)	0.074 (0.078)	-0.050 (0.051)	0.083 (0.096)
Δ GDP * Book Leverage $_{t-1}$ * 1_{Δ GDP $<0}$ * $1_{\text{TARP_BANK_QRT}}$	1.151*** (0.076)	0.918*** (0.295)	1.275*** (0.116)	1.078*** (0.125)
Observations	26034	3537	13487	9010
R ²	0.428	0.440	0.398	0.542
Other Controls and Stand-Alone Variables	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	Yes	Yes	Yes
Quarter-Year Fixed Effects	No	No	No	No
Clustering Level	Bank	Bank	Bank	Bank

*As we discuss in Section 6.1, the negative and significant interaction term for commercial banks with less than 20% fair value assets that did not receive TARP funds is driven by large unrealized gains on AfS securities in 2009, which resulted from a decrease in interest rates (see also Xie (2016)).

Internet Appendix C: Alternative Measures of Banks' Business Model

Table IA5: Alternative Measures of Banks' Business Model - Loan Portfolio Decomposition

This table reports the estimation results for extended versions of regression models (3a) and (3b). The dependent variable is the quarterly growth rate of book leverage (Δ Book Leverage). The key explanatory variables are the interaction terms between the quarterly growth rate of total assets (Δ Total Assets) and GDP (Δ GDP) with banks' lagged mortgage exposure (Mortgage Exp._{t-1}), consumer loan exposure (Consumer Loan Exp._{t-1}), and commercial real estate exposure (Commercial RE Exp._{t-1}) as well as the fraction of interest to non-interest income (II to Non-II_{t-1}). Variables are defined in Table A1. Bank fundamentals are obtained from *SNL Financial* and real GDP is retrieved from the homepage of the *Bureau of Economic Analysis* (US Department of Commerce). This sample covers US commercial and savings banks during the time period Q1-1994 to Q1-2013. Clustered standard errors at the bank level are given in parentheses. Significance is indicated by: *** < 0.01, ** < 0.05, * < 0.10.

	[1]	[2]	[3]	Full Sample		[6]	[7]	[8]
				[4]	[5]			
				Δ Book Leverage				
Δ Total Assets (TA)	2.549*** (0.493)	2.488*** (0.501)	1.966*** (0.321)	1.982*** (0.321)	2.094*** (0.512)	2.516*** (0.493)	1.659*** (0.275)	1.614*** (0.277)
Δ TA * Mortgage Exp. _{t-1}		0.272 (0.225)						
Δ TA * Consumer Loan Exp. _{t-1}				0.201 (0.340)				
Δ TA * Commercial RE Exp. _{t-1}						-0.779*** (0.297)		
Δ TA * II to Non-II _{t-1}								0.002 (0.003)
Δ TA * 1 _{Savings Bank}	0.225*** (0.070)	0.178** (0.082)	0.219*** (0.058)	0.220*** (0.059)	0.191*** (0.073)	0.113 (0.081)	0.158*** (0.052)	0.155*** (0.052)
Δ TA * 1 _{Commercial Bank>20% FV}	0.136* (0.073)	0.140* (0.072)	0.121** (0.051)	0.122** (0.051)	0.137* (0.070)	0.085 (0.072)	0.127*** (0.039)	0.129*** (0.039)
Δ TA * Bank Size _{t-1}	-0.106*** (0.024)	-0.105*** (0.024)	-0.077*** (0.016)	-0.079*** (0.016)	-0.084*** (0.025)	-0.095*** (0.024)	-0.061*** (0.014)	-0.059*** (0.014)
Δ GDP	-1.387 (1.578)	-1.283 (1.617)	-1.952** (0.992)	-1.993** (0.987)	-1.532 (1.499)	-1.706 (1.531)	-2.506*** (0.724)	-2.332*** (0.752)
Δ GDP * Mortgage Exp. _{t-1}		-0.222 (0.827)						
Δ GDP * Consumer Loan Exp. _{t-1}				-0.698 (1.206)				
Δ GDP * Commercial RE Exp. _{t-1}						0.638 (1.002)		
Δ GDP * II to Non-II _{t-1}								-0.008 (0.010)
Δ GDP * 1 _{Savings Bank}	-0.069 (0.234)	-0.033 (0.283)	-0.342* (0.189)	-0.343* (0.189)	-0.316 (0.230)	-0.270 (0.246)	-0.437*** (0.154)	-0.428*** (0.155)
Δ GDP * 1 _{Commercial Bank>20% FV}	0.462* (0.244)	0.461* (0.243)	0.228 (0.178)	0.228 (0.178)	0.405* (0.230)	0.461* (0.242)	0.227* (0.128)	0.217* (0.129)
Δ GDP * Bank Size _{t-1}	0.088 (0.078)	0.085 (0.078)	0.121** (0.048)	0.126*** (0.048)	0.099 (0.074)	0.100 (0.074)	0.145*** (0.035)	0.139*** (0.036)
Observations	16567	16567	28152	28152	17278	17278	41322	41322
R ²	0.092	0.093	0.091	0.092	0.090	0.092	0.110	0.110
Other Stand-Alone Variables and Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank Fixed Effects	No	No	No	No	No	No	No	No
Quarter-Year Fixed Effects	No	No	No	No	No	No	No	No
Clustering Level	Bank	Bank	Bank	Bank	Bank	Bank	Bank	Bank

Internet Appendix D: Derivatives and AfS Equity Securities

We investigate whether there is a significant increase in procyclical leverage around the introduction of FAS 133 and the change in the regulatory treatment of AfS equity securities. We define an indicator variable that equals 1 for post-change quarters and interact this dummy with Δ Total Assets and Δ GDP respectively. We use a balanced panel of banks for the time around the introduction of FAS 133 and the partial removal of the prudential filter for AfS equity securities to ensure that the coefficients of the interaction terms are not biased by the entry and exit of banks into/out of our sample. Any observable or unobservable event that influences procyclicality and coincides with the two institutional changes would also bias the coefficients of our estimates. To more cleanly identify effects, we multiply the two interaction terms with the bank's exposure to derivatives (notional) and AfS equity securities right before the institutional change. If the institutional change is associated with more procyclicality, the treatment effects should be positive for banks with larger derivative or AfS equity portfolios.

We do not find any significant increase in procyclical leverage after the introduction of FAS 133 for banks with higher derivative exposure. While the interactions with Δ Total Assets are insignificant, the interactions with Δ GDP are even negative. These results are robust to using different time windows around the event (Table IA6).

Similarly, the association between total asset growth and book leverage growth is not significantly stronger after the partial removal of the prudential filter for AfS equity securities for banks with large exposures in these assets (Table IA7). In contrast, we find a statistically significant increase in the relation between Δ GDP and Δ Book Leverage after the change in regulatory treatment. However, looking at the effect of unrealized gains and losses on AfS equity securities directly does not support the conclusion that these gains magnify procyclical leverage.

In particular, we split total unrealized gains and losses on AfS securities into their debt

and equity components and rerun regression models (4a) and (4b) to examine the role of AfS equity securities for procyclical leverage.²¹

We find a positive and weakly significant interaction term for unrealized gains and losses on AfS equity securities upon balance sheet expansions, but the coefficient becomes insignificant if we exclude the financial crisis of 2007-2009 (Table IA8). As we show in Section 6.1, total assets increased because of TARP in the crisis, which resulted in a decrease of leverage. Since unrealized gains and losses on AfS equity securities became negative at the same time, the interaction term is positive during the crisis period. The coefficient for balance sheet contractions and the interactions of Δ Total Assets with unrealized gains and losses on AfS debt securities are insignificant. Including unrealized gains and losses on cash flow hedges does not affect our results. The corresponding interaction terms are not significant. Finally, none of the interactions with Δ GDP are significantly different from zero (Table IA9).

²¹The sample period for this test starts at the end of 1998 since the Fed only required banks to report unrealized gains on AfS equity securities after the change in regulatory treatment of these securities.

Table IA6: FAS 133 and Procyclical Leverage

In this table we test whether the introduction of fair value accounting for hedging derivatives via FAS 133 is associated with a significant increase in leverage procyclicality. The dependent variable is the quarterly growth rate of book leverage (Δ Book Leverage). The dummy variable $1_{\text{Year} \geq 2001}$ equals one for quarters after the effective date of FAS 133 at the beginning of 2001 and Deriv.Exp.Q4-2000 captures a bank's gross notional derivative exposure (fraction of total assets) at the end of Q4-2000. The key explanatory variables are the interaction terms between $1_{\text{Year} \geq 2001}$, Deriv.Exp.Q4-2000 and $\Delta \text{Total Assets} / \Delta \text{GDP}$, which capture the changes in leverage procyclicality for banks with higher derivative exposure after the introduction of FAS 133. This sample covers a balanced panel of US commercial and savings banks around the change in accounting rules for derivatives. Variables are defined in Table A1. Bank fundamentals are obtained from *SNL Financial* and real GDP is retrieved from the homepage of the *Bureau of Economic Analysis* (US Department of Commerce). Clustered standard errors at the bank level are given in parentheses. Significance is indicated by: *** < 0.01, ** < 0.05, * < 0.10.

	1999-2002	Q1-1996 \leq Pre \leq Q2-1998 Q1-2001 \leq Post \leq Q4-2002	1999-2002	Q1-1996 \leq Pre \leq Q2-1998 Q1-2001 \leq Post \leq Q4-2002
	[1]	[2]	[3]	[4]
	Δ Book Leverage	Δ Book Leverage	Δ Book Leverage	Δ Book Leverage
$\Delta \text{Total Assets} * \text{Deriv. Exp. Q4-2000} * 1_{\text{Year} \geq 2001}$			0.096 (0.105)	0.082 (0.066)
$\Delta \text{GDP} * \text{Deriv. Exp. Q4-2000} * 1_{\text{Year} \geq 2001}$			-0.824 (0.715)	-0.958*** (0.322)
$\Delta \text{Total Assets} * 1_{\text{Year} \geq 2001}$	0.035 (0.075)	0.140 (0.105)	-0.118 (0.090)	0.043 (0.127)
$\Delta \text{GDP} * 1_{\text{Year} \geq 2001}$	-0.184 (0.265)	1.225*** (0.365)	-0.032 (0.290)	1.774*** (0.402)
$\Delta \text{Total Assets}$	0.699*** (0.069)	0.604*** (0.064)	0.745*** (0.074)	0.611*** (0.067)
ΔGDP	1.021*** (0.127)	-0.353 (0.246)	1.108*** (0.136)	-0.608** (0.264)
$1_{\text{Year} \geq 2001}$	-0.004 (0.002)	-0.005 (0.005)	-0.002 (0.002)	-0.013*** (0.004)
$\text{Deriv. Exp. Q4-2000}$			0.007* (0.004)	0.013*** (0.003)
Constant	0.336 (0.295)	0.150 (0.149)	0.015 (0.017)	0.011 (0.015)
Observations	3673	3009	2742	2292
R ²	0.458	0.459	0.338	0.333
Other Controls	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	Yes	No	No
Quarter-Year Fixed Effects	No	No	No	No
Clustering Level	Bank	Bank	Bank	Bank

Table IA7: Changes in Regulatory Treatment of Unrealized AfS Equity Gains and Proccyclical Leverage In this table we test whether the partial removal of the prudential filter for unrealized gains on AfS equity securities in Q4-1998 is associated with a significant increase in leverage procyclicality. The dependent variable is the quarterly growth rate of book leverage (Δ Book Leverage). The dummy variable $1_{\text{Quarter} \geq \text{Q4-1998}}$ equals one for quarters after the effective date of the regulatory change at the beginning of Q4-1998 and AfS. Equity Exp. Q3-1998 captures a bank's exposure to AfS equity securities (fraction of total assets) at the end of Q3-1998. The key explanatory variables are the interaction terms between $1_{\text{Quarter} \geq \text{Q4-1998}}$, AfS. Equity Exp. Q3-1998 and Δ Total Assets / Δ GDP, which capture the changes in leverage procyclicality for banks with higher AfS equity exposure after the partial removal of the prudential filter in Q4-1998. This sample covers a balanced panel of US commercial and savings banks around the regulatory change. Variables are defined in Table A1. Bank fundamentals are obtained from *SNL Financial* and real GDP is retrieved from the homepage of the *Bureau of Economic Analysis* (US Department of Commerce). Clustered standard errors at the bank level are given in parentheses. Significance is indicated by: *** < 0.01, ** < 0.05, * < 0.10.

	Q1-1997 to Q4-2000 [1] Δ Book Leverage	Q1-1994 to Q4-2000 [2] Δ Book Leverage	Q1-1997 to Q4-2000 [3] Δ Book Leverage	Q1-1994 to Q4-2000 [4] Δ Book Leverage
Δ Total Assets * AfS Equity Exp. Q3-1998 * $1_{\text{Quarter} \geq \text{Q4-1998}}$			-16.963 (11.157)	-13.977 (8.666)
Δ GDP * AfS Equity Exp. Q3-1998 * $1_{\text{Quarter} \geq \text{Q4-1998}}$			62.014** (29.904)	73.972*** (23.982)
Δ Total Assets * $1_{\text{Quarter} \geq \text{Q4-1998}}$	0.083 (0.089)	0.077 (0.093)	0.295** (0.135)	0.188 (0.131)
Δ GDP * $1_{\text{Quarter} \geq \text{Q4-1998}}$	1.905*** (0.542)	0.266 (0.350)	1.463* (0.747)	-0.358 (0.359)
Δ Total Assets	0.659*** (0.081)	0.666*** (0.069)	0.634*** (0.087)	0.693*** (0.062)
Δ GDP	-0.897* (0.537)	0.923*** (0.275)	-0.894 (0.639)	1.037*** (0.260)
$1_{\text{Quarter} \geq \text{Q4-1998}}$	-0.007 (0.007)	0.008 (0.007)	-0.014* (0.008)	0.005 (0.004)
AfS Equity Exp. Q3-1998			0.203 (0.295)	0.136 (0.228)
Constant	-0.254 (0.346)	0.128 (0.242)	0.011 (0.019)	0.002 (0.016)
Observations	2330	2256	1854	1936
R ²	0.444	0.415	0.345	0.408
Other Controls	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	Yes	No	No
Quarter-Year Fixed Effects	No	No	No	No
Clustering Level	Bank	Bank	Bank	Bank

Table IA8: Determinants of the Relation between Book Leverage Growth and Total Asset Growth - Supplementary Tests on the Role of Fair Value Accounting This table reports the estimation results for a modified version of regression model (4a). The dependent variable is the quarterly growth rate of book leverage (Δ Book Leverage). The key explanatory variables are the interaction terms between the quarterly growth rate of total assets (Δ Total Assets) and unrealized gains on AfS securities (Unrealized Gains AfS), unrealized gains on AfS debt securities (Unrealized Gains AfS Debt), unrealized gains on AfS equity securities (Unrealized Gains AfS Equity), unrealized gains on cash flow hedges (Unrealized Gains CF Hedges), and the sum of unrealized gains on AfS securities and cash flow hedges (Unrealized Gains AfS + CF Hedges). For each interaction term we distinguish between Δ Total Assets >0 and Δ Total Assets <0 to account for potential non-linearities in effects. Variables are defined in Table A1. For expositional purposes we multiply the accounting items with 1000. Bank fundamentals are obtained from *SNL Financial* and real GDP is retrieved from the homepage of the *Bureau of Economic Analysis* (US Department of Commerce). This sample covers US commercial and savings banks during the time period Q1-1994 to Q1-2013. Clustered standard errors at the bank level are given in parentheses. Significance is indicated by: *** < 0.01 , ** < 0.05 , * < 0.10 .

	Full Sample			
	[1]	[2]*	[3]	[4]
	Δ Book Leverage			
Δ Total Assets (TA)	0.719*** (0.163)	0.575*** (0.197)	0.716*** (0.163)	0.720*** (0.163)
Δ TA * Unrealized Gains AfS * 1_{Δ TA >0	-0.012 (0.014)			-0.011 (0.014)
Δ TA * Unrealized Gains AfS * 1_{Δ TA <0	0.044* (0.023)			0.045* (0.023)
Δ TA * Unrealized Gains AfS Debt * 1_{Δ TA >0		-0.005 (0.015)		
Δ TA * Unrealized Gains AfS Debt * 1_{Δ TA <0		0.024 (0.024)		
Δ TA * Unrealized Gains AfS Equity * 1_{Δ TA >0		0.550* (0.324)		
Δ TA * Unrealized Gains AfS Equity * 1_{Δ TA <0		-0.105 (0.616)		
Δ TA * Unrealized Gains AfS + CF Hedges * 1_{Δ TA >0			-0.010 (0.014)	
Δ TA * Unrealized Gains AfS + CF Hedges * 1_{Δ TA <0			0.042* (0.023)	
Δ TA * Unrealized Gains CF Hedges * 1_{Δ TA >0				0.449 (0.308)
Δ TA * Unrealized Gains CF Hedges * 1_{Δ TA <0				-0.489 (0.549)
Δ GDP	0.417*** (0.071)	0.654*** (0.083)	0.413*** (0.071)	0.416*** (0.072)
Unrealized Gains AfS	-0.011*** (0.000)			-0.011*** (0.000)
Unrealized Gains AfS Debt		-0.011*** (0.000)		
Unrealized Gains AfS Equity		-0.033*** (0.008)		
Unrealized Gains AfS + CF Hedges			-0.011*** (0.000)	
Unrealized Gains CF Hedges				-0.021*** (0.008)
Observations	26034	17796	25931	25931
R ²	0.402	0.407	0.403	0.403
Other Controls and Interactions	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	Yes	Yes	Yes
Quarter-Year Fixed Effects	No	No	No	No
Clustering Level	Bank	Bank	Bank	Bank

*As we discuss in Section 6.3, the positive and weakly significant interaction term for unrealized gains and losses on AfS equity securities upon balance sheet expansions becomes insignificant if we exclude the financial crisis of 2007-2009.

Table IA9: Determinants of the Relation between Book Leverage Growth and GDP Growth - Supplementary Tests on the Role of Fair Value Accounting This table reports the estimation results for a modified version of regression model (4b). The dependent variable is the quarterly growth rate of book leverage (Δ Book Leverage). The key explanatory variables are the interaction terms between the quarterly growth rate of GDP (Δ GDP) and unrealized gains on AfS securities (Unrealized Gains AfS), unrealized gains on AfS debt securities (Unrealized Gains AfS Debt), unrealized gains on AfS equity securities (Unrealized Gains AfS Equity), unrealized gains on cash flow hedges (Unrealized Gains CF Hedges), and the sum of unrealized gains on AfS securities and cash flow hedges (Unrealized Gains AfS + CF Hedges). For each interaction term we distinguish between Δ GDP>0 and Δ GDP<0 to account for potential non-linearities in effects. Variables are defined in Table A1. For expositional purposes we multiply the accounting items with 1000. Bank fundamentals are obtained from *SNL Financial* and real GDP is retrieved from the homepage of the *Bureau of Economic Analysis* (US Department of Commerce). This sample covers US commercial and savings banks during the time period Q1-1994 to Q1-2013. Clustered standard errors at the bank level are given in parentheses. Significance is indicated by: *** < 0.01, ** < 0.05, * < 0.10.

	Full Sample			
	[1]	[2]	[3]	[4]
	Δ Book Leverage			
Δ GDP	1.387* (0.804)	4.115*** (1.080)	1.299 (0.798)	1.322* (0.800)
Δ GDP * Unrealized Gains AfS * 1_{Δ GDP>0}	0.006 (0.065)			0.007 (0.065)
Δ GDP * Unrealized Gains AfS * 1_{Δ GDP<0}	-0.170 (0.108)			-0.180 (0.109)
Δ GDP * Unrealized Gains AfS Debt * 1_{Δ GDP>0}		0.084 (0.074)		
Δ GDP * Unrealized Gains AfS Debt * 1_{Δ GDP<0}		-0.210 (0.145)		
Δ GDP * Unrealized Gains AfS Equity * 1_{Δ GDP>0}		0.832 (1.212)		
Δ GDP * Unrealized Gains AfS Equity * 1_{Δ GDP<0}		-3.359 (4.243)		
Δ GDP * Unrealized Gains AfS + CF Hedges * 1_{Δ GDP>0}			-0.006 (0.065)	
Δ GDP * Unrealized Gains AfS + CF Hedges * 1_{Δ GDP<0}			-0.139 (0.107)	
Δ GDP * Unrealized Gains CF Hedges * 1_{Δ GDP>0}				-0.728 (1.264)
Δ GDP * Unrealized Gains CF Hedges * 1_{Δ GDP<0}				2.061 (2.512)
Δ Total Assets	0.602*** (0.025)	0.553*** (0.029)	0.601*** (0.025)	0.602*** (0.025)
Unrealized Gains AfS	-0.012*** (0.000)			-0.012*** (0.000)
Unrealized Gains AfS Debt		-0.013*** (0.001)		
Unrealized Gains AfS Equity		-0.028* (0.013)		
Unrealized Gains AfS + CF Hedges			-0.012*** (0.000)	
Unrealized Gains CF Hedges				-0.003 (0.011)
Observations	26034	17796	25931	25931
R ²	0.371	0.376	0.371	0.372
Other Controls and Interactions	Yes	Yes	Yes	Yes
Bank Fixed Effects	Yes	Yes	Yes	Yes
Quarter-Year Fixed Effects	No	No	No	No
Clustering Level	Bank	Bank	Bank	Bank

Internet Appendix E: Additional Tests

Table IA10: Book Leverage Dynamics of US Non-Financial Firms versus Banks

This table compares the book leverage dynamics of US non-financial firms and banks. We report the coefficient estimates from linear regressions of the quarterly growth rate of book leverage (Δ Book Leverage) on the quarterly growth rate of total assets (Δ Total Assets) and/or GDP (Δ GDP). Variables are defined in Table A1. Firm and bank fundamentals are obtained from *Compustat* and *SNL Financial*, respectively. Real GDP is retrieved from the homepage of the *Bureau of Economic Analysis*. This sample covers the time period Q1-1994 to Q1-2013. Clustered standard errors at the firm or bank level are given in parentheses. Significance is indicated by: *** < 0.01, ** < 0.05, * < 0.10.

	Non-Financial Firms			Banks		
	[1]	[2]	[3]	[4]	[5]	[6]
	Δ Book Leverage			Δ Book Leverage		
Δ Total Assets	0.171*** (0.014)		0.172*** (0.014)	0.463*** (0.019)		0.461*** (0.019)
Δ GDP		-0.118 (0.112)	-0.275** (0.112)		0.547*** (0.057)	0.463*** (0.055)
Constant	-0.002** (0.001)	0.003*** (0.001)	-0.001 (0.001)	-0.007*** (0.000)	-0.001*** (0.000)	-0.010*** (0.001)
Observations	49686	49686	49686	41748	41748	41748
R ²	0.017	0.000	0.017	0.099	0.003	0.101
Bank Fixed Effects	No	No	No	No	No	No
Quarter-Year Fixed Effects	No	No	No	No	No	No
Clustering Level	Firm	Firm	Firm	Bank	Bank	Bank

Table IA11: Determinants of the Relation between Book Leverage Growth and Total Asset Growth - Explicitly Controlling for Realized Gains This table reports the estimation results for a modified version of regression model (4a). The dependent variable is the quarterly growth rate of book leverage (Δ Book Leverage). The key explanatory variables are the interaction terms between the quarterly growth rate of total assets (Δ Total Assets) and unrealized gains on AFS securities (Unrealized Gains AFS), realized gains on AFS and HtM securities (Realized Gains AFS & HtM), residual net income (Residual Net Income), the lagged total capital ratio (Total Capital Ratio $_{t-1}$), the quarterly growth rate of the average risk weight (Δ Risk Weight), and the lagged book leverage ratio (Book Leverage $_{t-1}$). For each interaction term we distinguish between Δ Total Assets >0 and Δ Total Assets <0 to account for potential non-linearities in effects. Variables are defined in Table A1. For expositional purposes we multiply the accounting items with 1000 and Δ Risk Weight as well as Total Capital Ratio $_{t-1}$ with 100. Bank fundamentals are obtained from *SNL Financial* and real GDP is retrieved from the homepage of the *Bureau of Economic Analysis* (US Department of Commerce). This sample covers US commercial and savings banks during the time period Q1-1994 to Q1-2013. Clustered standard errors at the bank level are given in parentheses. Significance is indicated by: *** < 0.01 , ** < 0.05 , * < 0.10 .

	Full Sample [1] Δ Book Leverage	Savings Banks [2] Δ Book Leverage	CB < 20% FV [3] Δ Book Leverage	CB > 20% FV [4] Δ Book Leverage
Δ Total Assets (TA)	0.700*** (0.165)	1.315*** (0.372)	0.432* (0.235)	1.169*** (0.268)
Δ TA * Unrealized Gains AFS * 1_{Δ TA>0	-0.012 (0.014)	-0.016 (0.046)	0.000 (0.026)	-0.019 (0.018)
Δ TA * Unrealized Gains AFS * 1_{Δ TA<0	0.033 (0.026)	0.143* (0.080)	-0.036 (0.044)	0.044 (0.033)
Δ TA * Realized Gains AFS & HtM * 1_{Δ TA>0	0.086 (0.056)	-0.254* (0.140)	0.154** (0.075)	0.071 (0.083)
Δ TA * Realized Gains AFS & HtM * 1_{Δ TA<0	0.014 (0.084)	-0.021 (0.214)	-0.060 (0.098)	0.015 (0.151)
Δ TA * Residual Net Income * 1_{Δ TA>0	0.049*** (0.015)	-0.003 (0.049)	0.056*** (0.018)	0.015 (0.021)
Δ TA * Residual Net Income * 1_{Δ TA<0	0.136*** (0.016)	0.094** (0.039)	0.160*** (0.018)	0.093** (0.037)
Δ TA * Total Capital Ratio $_{t-1}$ * 1_{Δ TA>0	0.013*** (0.005)	-0.005 (0.009)	0.021*** (0.007)	0.002 (0.008)
Δ TA * Total Capital Ratio $_{t-1}$ * 1_{Δ TA<0	0.003 (0.009)	-0.001 (0.015)	0.016 (0.015)	-0.021 (0.018)
Δ TA * Δ Risk Weight * 1_{Δ TA>0	-0.009** (0.005)	0.025** (0.013)	-0.010 (0.007)	-0.016*** (0.006)
Δ TA * Δ Risk Weight * 1_{Δ TA<0	0.030*** (0.010)	0.021 (0.014)	0.029** (0.014)	0.030** (0.015)
Δ TA * Book Leverage $_{t-1}$ * 1_{Δ TA>0	-0.053*** (0.010)	-0.062** (0.027)	-0.046*** (0.013)	-0.064*** (0.016)
Δ TA * Book Leverage $_{t-1}$ * 1_{Δ TA<0	-0.000 (0.012)	-0.025 (0.032)	0.006 (0.013)	-0.009 (0.026)
Δ GDP	0.407*** (0.071)	-0.123 (0.154)	0.750*** (0.094)	0.088 (0.143)
Unrealized Gains AFS	-0.011*** (0.000)	-0.008*** (0.001)	-0.011*** (0.001)	-0.011*** (0.000)
Realized Gains AFS & HtM	-0.017*** (0.002)	-0.013* (0.006)	-0.019*** (0.003)	-0.016*** (0.002)
Residual Net Income	-0.009*** (0.001)	-0.008*** (0.001)	-0.009*** (0.001)	-0.010*** (0.001)
Total Capital Ratio $_{t-1}$	0.000 (0.000)	0.001 (0.001)	-0.000 (0.000)	-0.001** (0.000)
Δ Risk Weight	0.000 (0.000)	-0.000 (0.001)	-0.000 (0.000)	0.001 (0.000)
Bank Size $_{t-1}$	-0.009*** (0.001)	-0.011 (0.010)	-0.008*** (0.002)	-0.013*** (0.003)
q $_{t-1}$	0.002** (0.001)	-0.001 (0.003)	0.002* (0.001)	0.003* (0.002)
Book Leverage $_{t-1}$	-0.004*** (0.000)	-0.004*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)
1_{Δ TA>0	0.007*** (0.001)	0.002 (0.002)	0.007*** (0.002)	0.006*** (0.002)
Δ Goodwill	-0.227*** (0.020)	-0.254*** (0.072)	-0.259*** (0.029)	-0.166*** (0.025)
Constant	0.261*** (0.038)	0.306 (0.215)	0.262*** (0.045)	0.378*** (0.072)
Observations	25889	3521	13405	8963
R ²	0.396	0.435	0.360	0.512
Bank Fixed Effects	Yes	Yes	Yes	Yes
Quarter-Year Fixed Effects	No	No	No	No
Clustering Level	Bank	Bank	Bank	Bank

Table IA12: Determinants of the Relation between Book Leverage Growth and GDP Growth - Explicitly Controlling for Realized Gains This table reports the estimation results for a modified version of regression model (4b). The dependent variable is the quarterly growth rate of book leverage (Δ Book Leverage). The key explanatory variables are the interaction terms between the quarterly growth rate of GDP (Δ GDP) and unrealized gains on AfS securities (Unrealized Gains AfS), realized gains on AfS and HtM securities (Realized Gains AfS & HtM), residual net income (Residual Net Income), the lagged total capital ratio (Total Capital Ratio $_{t-1}$), the quarterly growth rate of the average risk weight (Δ Risk Weight), and the lagged book leverage ratio (Book Leverage $_{t-1}$). For each interaction term we distinguish between Δ GDP>0 and Δ GDP<0 to account for potential non-linearities in effects across up- and downswings. Variables are defined in Table A1. For expositional purposes we multiply the accounting items with 1000 and Δ Risk Weight as well as Total Capital Ratio $_{t-1}$ with 100. Bank fundamentals are obtained from *SNL Financial* and real GDP is retrieved from the homepage of the *Bureau of Economic Analysis* (US Department of Commerce). This sample covers US commercial and savings banks during the time period Q1-1994 to Q1-2013. Clustered standard errors at the bank level are given in parentheses. Significance is indicated by: *** < 0.01, ** < 0.05, * < 0.10.

	Full Sample [1] Δ Book Leverage	Savings Banks [2] Δ Book Leverage	CB < 20% FV [3] Δ Book Leverage	CB > 20% FV [4] Δ Book Leverage
Δ GDP	1.482* (0.813)	-1.897 (1.202)	2.644** (1.233)	1.030 (1.459)
Δ GDP * Unrealized Gains AfS * 1_{Δ GDP>0	0.042 (0.066)	0.138 (0.240)	0.220 (0.150)	-0.047 (0.074)
Δ GDP * Unrealized Gains AfS * 1_{Δ GDP<0	-0.198* (0.107)	-0.177 (0.261)	-0.589*** (0.206)	0.114 (0.120)
Δ GDP * Realized Gains AfS & HtM * 1_{Δ GDP>0	0.993*** (0.282)	1.037 (0.869)	1.216** (0.491)	0.929** (0.378)
Δ GDP * Realized Gains AfS & HtM * 1_{Δ GDP<0	0.019 (0.339)	-0.308 (0.829)	0.107 (0.497)	-0.396 (0.495)
Δ GDP * Residual Net Income * 1_{Δ GDP>0	-0.014 (0.059)	0.152 (0.132)	-0.105 (0.079)	0.063 (0.127)
Δ GDP * Residual Net Income * 1_{Δ GDP<0	-0.191*** (0.068)	-0.137 (0.111)	-0.247*** (0.090)	-0.066 (0.144)
Δ GDP * Total Capital Ratio $_{t-1}$ * 1_{Δ GDP>0	-0.075*** (0.025)	0.004 (0.028)	-0.101** (0.047)	-0.066 (0.043)
Δ GDP * Total Capital Ratio $_{t-1}$ * 1_{Δ GDP<0	-0.150*** (0.033)	0.003 (0.036)	-0.161** (0.068)	-0.329*** (0.074)
Δ GDP * Δ Risk Weight * 1_{Δ GDP>0	0.006 (0.034)	-0.036 (0.087)	-0.023 (0.053)	0.075 (0.052)
Δ GDP * Δ Risk Weight * 1_{Δ GDP<0	-0.138* (0.059)	0.000 (0.128)	-0.169* (0.087)	-0.100 (0.088)
Δ GDP * Book Leverage $_{t-1}$ * 1_{Δ GDP>0	-0.042 (0.043)	0.145 (0.093)	-0.083 (0.060)	-0.051 (0.072)
Δ GDP * Book Leverage $_{t-1}$ * 1_{Δ GDP<0	0.225*** (0.060)	0.231* (0.118)	0.171** (0.080)	0.392*** (0.116)
Δ Total Assets	0.601*** (0.025)	0.764*** (0.079)	0.529*** (0.033)	0.667*** (0.034)
Unrealized Gains AfS	-0.012*** (0.001)	-0.011*** (0.002)	-0.013*** (0.001)	-0.012*** (0.001)
Realized Gains AfS & HtM	-0.021*** (0.002)	-0.023*** (0.007)	-0.022*** (0.003)	-0.021*** (0.003)
Residual Net Income	-0.011*** (0.001)	-0.010*** (0.001)	-0.011*** (0.001)	-0.012*** (0.001)
Total Capital Ratio $_{t-1}$	0.001*** (0.000)	0.001 (0.001)	0.001** (0.000)	-0.000 (0.000)
Δ Risk Weight	-0.001*** (0.000)	0.001 (0.001)	-0.001** (0.000)	-0.001*** (0.000)
Bank Size $_{t-1}$	-0.008*** (0.002)	-0.009 (0.008)	-0.008*** (0.002)	-0.012*** (0.003)
qt-1	0.004*** (0.001)	-0.004 (0.004)	0.006*** (0.001)	0.004** (0.002)
Book Leverage $_{t-1}$	-0.004*** (0.001)	-0.006*** (0.002)	-0.005*** (0.001)	-0.005*** (0.001)
1_{Δ GDP>0	-0.007*** (0.002)	-0.001 (0.004)	-0.008** (0.002)	-0.004 (0.003)
Δ Goodwill	-0.265*** (0.023)	-0.297*** (0.102)	-0.308*** (0.031)	-0.195*** (0.029)
Constant	0.241*** (0.040)	0.311 (0.198)	0.231*** (0.048)	0.363*** (0.076)
Observations	25889	3521	13405	8963
R ²	0.367	0.401	0.322	0.503
Bank Fixed Effects	Yes	Yes	Yes	Yes
Quarter-Year Fixed Effects	No	No	No	No
Clustering Level	Bank	Bank	Bank	Bank