**Appendix: Control Variables**

I include control variables that may affect both key independent variables (the amount of securities as a percentage of bank assets, the amount of trading securities as a percentage of bank assets, and wealth-performance sensitivity of the CEO’s compensation package) as well as the dependent variable (bank leverage), in order to account for spurious relationships between the independent and dependent variables that may be caused by their joint relationship with a confounding control variable (Morgan and Winship 2014).

*Bank size:* I include a control for bank size (log total assets), which may confound the relationship between the manifestations of each logic and risk-taking. Larger banks take on more leverage (Laeven et. al. 2014), make more of their money through securitization (DeYoung and Rice 2004; Laeven et. al. 2014), and include greater shares of equity-based compensation in executive compensation packages (Desmetz and Saidenberg 1999). Assets are reported in constant dollars.

*Net interest margin:* Net interest margin, or the difference between the rate at which banks generate interest income from loans and the rate at which banks pay interest to lenders, is likely to confound the relationship between the prevalence of the market logic and risk-taking. Banks with low net interest margins profit less from traditional lending activities, and so should be more likely to turn towards securitization, as well as to take on leverage to raise profit margins.

*National stock and home price indices:* I include controls for national stock (S&P 500) and home price (Case-Shiller HPI) indices. Changes in the value of stocks and home values likely affect both the relative size of commercial banks’ securities holdings (through affecting the value of banks’ holdings of equity and mortgage-backed securities) as well as banks’ leverage (because a rise in the value of bank assets mechanically increases the value of bank equity as a percentage of assets, thus decreasing leverage). As such, changes in these indices may confound the relationship between the relative size of securities holdings and leverage. I accessed historical data for the S&P 500 from Yahoo! Finance and historical data for the Case-Shiller Index from Robert Shiller’s website (Shiller 2018).

*CEO age:* The literature on CEO age tends to suggest that younger CEOs make riskier decisions in order to improve their reputation (e.g., Yim 2013; Serfling 2014). On the other hand, older CEOs have weaker reputational incentives to improve firm performance because they are more likely to retire sooner. As such, older CEOs may need greater explicit incentives in their compensation packages to improve firm performance (Gibbons and Murphy 1992).

*CEO education:* I include two control variables that measure CEO education. One variable indicates whether a CEO has a law degree (JD, LLM, or a similar degree); a second variable indicates whether a CEO has a business-related (accounting, business administration, economics, or finance), or a professional license in one of these fields (i.e., a CPA). CEOs with a business-related background take more risks than CEOs with law degrees (Henderson et al. 2017), and may also be more likely to arrange compensation packages that would allow them to personally profit from increased leverage.

I hand-collected data on educational attainment for the 325 CEOs in the data set primarily from the online CapitalIQ and Marquis Who’s Who databases. Many commercial bank CEOs list having attended non-degree programs for mid-career executives or bankers; these cases are not included in the second variable, though substantive results are robust to including these cases. If the educational attainment of the CEO was not apparent or available in these data sources, I searched for this information on Google. Overall, this method returned some information about the education of almost 90% of the CEOs in the data set. I list these CEOs as not having a law degree or an advanced business degree, which is a reasonable assumption since most CEOs list their educational attainment in the biographies listed on company websites. However, the results are robust to treating these observations as missing.

*Board of directors size:* I control for the size of the commercial bank’s board of directors. Previous research has suggested that companies with smaller boards of directors are associated with stronger CEO performance incentives as well as lower levels of leverage (Yermack 1996, Wang 2012). This variable comes from the Institutional Shareholder Services data set.

*Board of directors composition:* I control for the composition of the board of directors as the percentage of board members who are listed as having an ‘independent’ affiliation in the Institutional Shareholder Services data set. Boards with a greater percentage of outside members are thought to be more likely to push for the firm to act in the interest of its shareholders rather than its employees (Fama and Jensen 1983). This should mean that boards with a high percentage of outside members should give CEOs greater financial incentives for raising the firm’s stock price, and should also be more willing to take on leverage.

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**Appendix Table 1: Subsamples of Banks With and Without Trading Securities**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 |
| *Sample restrictions* | Banks with trading securities | Banks with trading securities | Banks without trading securities |
| *Controls* |  |  |  |
| Log assets | 0.262 | -0.141 | 0.089 |
| Net interest margin | -1.178\*\* | -1.084\*\* | -0.510 |
| Case-Shiller HPI | 0.001 | -0.002 | 0.021 |
| S&P 500 index | 0.000 | 0.000 | 0.000 |
| CEO age | 0.087\*\*\* | 0.098\*\* | -0.131\*\* |
| CEO has law degree | -0.863\* | -0.801 | -1.43 |
| CEO has business degree | 0.221 | 0.343 | -0.931 |
| Board of director size | -0.058 | -0.033 | 0.010 |
| Percentage of outside directors | 1.068 | 0.694 | 0.060 |
| *Implementation of market logic* |  |  |  |
| Securities / assets | -0.004 |  | 0.106\* |
| Trading secutiries / assets |  | 0.127\*\* |  |
| *Implementation of SV logic* |  |  |  |
| Wealth-performance sensitivity | -0.001 | -0.002† | 0.011 |
| Bank fixed-effects | Yes | Yes | Yes |
| Year fixed-effects | Yes | Yes | Yes |
| N | 482 | 482 | 568 |
| p < .1 † |  |  |  |
| p < .05 \* |  |  |  |
| p < .01 \*\* |  |  |  |
| p < .001 \*\*\* |  |  |  |

**Appendix Table 2: Estimating Models after Removing Outliers**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 |
|  | Leverage | Leverage | Securities / assets | Securities / assets | Trading securities / assets | Trading securities / assets | Wealth-performance sensitivity | Wealth-performance sensitivity |
| *Controls* |  |  |  |  |  |  |  |  |
| Log assets | 0.340 | 0.359 | 0.175 | 0.209 | 0.385 | 0.391 | 0.426 | 0.401 |
| Net interest margin | -1.017† | -1.007\* | -1.022† | -1.015\* | -1.078† | -1.090\* | -0.945† | -0.927\* |
| Case-Shiller HPI | 0.016 | 0.016 | 0.017 | 0.017 | 0.017 | 0.017 | 0.018 | 0.017 |
| S&P 500 index | 0.001 | 0 | 0.001 | 0 | 0.001 | 0 | 0 | 0 |
| CEO age | -0.018 | -0.019 | -0.025 | -0.025 | -0.023 | -0.022 | -0.018 | -0.019 |
| CEO has law degree | -1.128 | -1.017 | -1.086 | -1.038† | -1.162 | -1.093 | -1.005 | 0.964 |
| CEO has business degree | -0.307 | -0.237 | -0.376 | -0.328 | -0.140 | -0.125 | -0.072 | -0.037 |
| Board of director size | 0.001 | -0.002 | 0.014 | 0.013 | 0.010 | 0.009 | 0.010 | 0.009 |
| Percentage of outside directors | 0.441 | 0.434 | 0.401 | 0.423 | 0.573 | 0.533 | 0.617 | 0.593 |
| *Implementation of market logic* |  |  |  |  |  |  |  |  |
| Securities / assets | 0.053 |  | 0.035 |  | 0.023 |  | 0.028 |  |
| Trading secutiries / assets |  | 0.182\* |  | 0.174\*\* |  | 0.151 |  | 0.158\* |
| *Implementation of SV logic* |  |  |  |  |  |  |  |  |
| Wealth-performance sensitivity | -0.003 | -0.002 | -0.001 | -0.001 | -0.001 | -0.001 | -0.005 | -0.005 |
| Bank fixed-effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year fixed-effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| N | 1039 | 1039 | 1040 | 1040 | 1040 | 1040 | 1040 | 1040 |
| p < .1 † |  |  |  |  |  |  |  |  |
| p < .05 \* |  |  |  |  |  |  |  |  |
| p < .01 \*\* |  |  |  |  |  |  |  |  |
| p < .001 \*\*\* |  |  |  |  |  |  |  |  |

**Appendix Table 3: Estimating Models on Years 2000-2016**

|  |  |  |
| --- | --- | --- |
|  | Model 1 | Model 2 |
| *Years* | 2000-2016 | 2000-2016 |
| *Controls* |  |  |
| Log assets | 0.329 | 0.403 |
| Net interest margin | -0.849† | -0.974\* |
| Case-Shiller HPI | 0.001 | 0.006 |
| S&P 500 index | 0.001\* | 0.001 |
| CEO age | -0.023 | -0.028 |
| CEO has law degree | -1.268\* | -1.225\* |
| CEO has business degree | 0.647 | 0.588 |
| Board of director size | -0.009 | -0.010 |
| Percentage of outside directors | 0.971 | 1.157 |
| *Implementation of market logic* |  |  |
| Securities / assets | 0.047 |  |
| Trading secutiries / assets |  | 0.213 |
| *Implementation of SV logic* |  |  |
| Wealth-performance sensitivity | -0.003 | -0.003 |
| Bank fixed-effects | Yes | Yes |
| Year fixed-effects | Yes | Yes |
| N | 959 | 959 |
| p < .1 † |  |  |
| p < .05 \* |  |  |
| p < .01 \*\* |  |  |
| p < .001 \*\*\* |  |  |

**Appendix Table 4: Estimating Models Before and After Financial Crisis**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
| *Years* | 1996-2007 | 1996-2007 | 2008-2016 | 2008-2016 |
| *Controls* |  |  |  |  |
| Log assets | -2.147 | -1.742 | -0.567 | -0.632 |
| Net interest margin | -0.359 | -0.162 | -1.046\* | -1.040\* |
| Case-Shiller HPI | 0.017 | 0.020 | 0.007 | 0.009 |
| S&P 500 index | 0 | -0.001 | 0 | 0 |
| CEO age | -0.050 | -0.036 | -0.019 | -0.019 |
| CEO has law degree | -0.497 | -0.257 | -0.255 | -0.271 |
| CEO has business degree | -2.031 | -1.688 | -0.156 | -0.127 |
| Board of director size | 0.007 | 0.021 | 0.025 | 0.028 |
| Percentage of outside directors | 0.743 | 0.350 | 0.167 | 0.092 |
| *Implementation of market logic* |  |  |  |  |
| Securities / assets | -0.015 |  | -0.001 |  |
| Trading secutiries / assets |  | 0.221\* |  | 0.145 |
| *Implementation of SV logic* |  |  |  |  |
| Wealth-performance sensitivity | 0.001 | 0.001 | -0.003 | -0.002 |
| Bank fixed-effects | Yes | Yes | Yes | Yes |
| Year fixed-effects | Yes | Yes | Yes | Yes |
| N | 491 | 491 | 559 | 559 |
| p < .1 † |  |  |  |  |
| p < .05 \* |  |  |  |  |
| p < .01 \*\* |  |  |  |  |
| p < .001 \*\*\* |  |  |  |  |