

## NOTES

Unless otherwise specified, data come from the sources listed below.

Board of Governors of the Federal Reserve System, Flow of Funds Reports: Debt, international capital flows, and the size and activity of various financial sectors

Bureau of Economic Analysis: Economic output (GDP), spending, wages, and sector profit

Bureau of Labor Statistics: Labor market statistics

BlackBox Logic and Standard & Poor's: Data on loans underlying CMLTI 2006-NC2

CoreLogic: Home prices

Inside Mortgage Finance, 2009 Mortgage Market Statistical Annual: Data on origination of mortgages, issuance of mortgage-backed securities and values outstanding

Markit Group: ABX-HE index

Mortgage Bankers Association National Delinquency Survey: Mortgage delinquency and foreclosure rates

10-Ks, 10-Qs, and proxy statements filed with the Securities and Exchange Commission: Company-specific information

Many of the documents cited on the following pages, along with other materials, are available on [www.fcic.gov](http://www.fcic.gov).

### Chapter 1

1. Charles Prince, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 2, session 1: Citigroup Senior Management, April 8, 2010, transcript, p. 10.

2. Warren Buffett, testimony before the FCIC, Hearing on the Credibility of Credit Ratings, the Investment Decisions Made Based on Those Ratings, and the Financial Crisis, session 2: Credit Ratings and the Financial Crisis, June 2, 2010, transcript, p. 208; Warren Buffett, interview by FCIC, May 26, 2010.

3. Lloyd Blankfein, testimony before the First Public Hearing of the FCIC, day 1, panel 1: Financial Institution Representatives, January 13, 2010, transcript, p. 36.

4. Ben S. Bernanke, closed-door session with FCIC, November 17, 2009; Ben S. Bernanke, testimony before the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 2, session 1: The Federal Reserve, September 2, 2010, transcript, p. 27.

5. Alan Greenspan, written testimony for the FCIC, Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 1, session 1: The Federal Reserve, April 7, 2010, p. 9.

6. Richard C. Breeden, interview by FCIC, October 14, 2010.
7. Paul A. McCulley, testimony before the FCIC, Hearing on the Shadow Banking System, day 2, session 3: Institutions Participating in the Shadow Banking System, May 6, 2010, transcript, p. 249.
8. Arnold Cattani, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Greater Bakersfield, session 2: Local Banking, September 7, 2010, transcript pp. 25, 61.
9. William Martin, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—State of Nevada, session 2: The Impact of the Financial Crisis on Businesses of Nevada, September 8, 2010, transcript, p. 76.
10. Inside Mortgage Finance, *The 2009 Mortgage Market Statistical Annual*, vol. 1, *The Primary Market* (: Inside Mortgage Finance, 2009), p. 4, “Mortgage Product by Origination.”
11. Data provided to the FCIC by National Association of Realtors: national home price data from sales of existing homes, comparing second-quarter 1998 (\$135,800) and second-quarter 2006 (\$227,100), the national peak in prices.
12. Core-based statistical area house prices for Sacramento–Arden–Arcade–Roseville CA Metropolitan Statistical Area, CoreLogic data.
13. Data provided by CoreLogic, Home Price Index for Urban Areas. FCIC staff calculated house price growth from January 2001 to peak of each market. Prices increased at least 50% in 401 cities, at least 75% in 217 cities, at least 100% in 112 cities, at least 125% in 63 cities, and more than 150% in 16 cities.
14. Updated data provided by James Kennedy and Alan Greenspan, whose data originally appeared in “Sources and Uses of Equity Extracted from Homes,” Finance and Economics Discussion Series, Federal Reserve Board, 2007-20 (March 2007).
15. “Mortgage Originations Rise in First Half of 2005; Demand for Interest Only, Option ARM and Alt-A Products Increases,” Mortgage Bankers Association press release, October 25, 2005.
16. In 2007, the weekly wage of New York investment banker was \$16,849; of the average privately employed worker, \$841.
17. Federal Reserve Survey of Consumer Finances, tabulated by FCIC.
18. Angelo Mozilo, interview by FCIC, September 24, 2010.
19. Michael Mayo, testimony before the First Public Hearing of the FCIC, day 1, panel 2: Financial Market Participants, January 13, 2010, transcript, p. 114.
20. “Mortgage Originations Rise in First Half of 2005,” MBA press release, October 27, 2005.
21. Yuliya Demyanyk and Yadav K. Gopalan, “Subprime ARMs: Popolar Loans, Poor Performance,” Federal Reserve Bank of St. Louis, *Bridges* (Spring 2007).
22. Ann Fulmer, vice president of Business Relations, Interthink (session 1: Overview of Mortgage Fraud), and Ellen Wilcox, special agent, Florida Department of Law Enforcement (session 2: Uncovering Mortgage Fraud in Miami), testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Miami, September 21, 2010.
23. Julia Gordon and Michael Calhoun, Center for Responsible Lending, interview by FCIC, September 16, 2010.
24. Faith Schwartz, at Consumer Advisory Council meeting, Thursday, March 30, 2006.
25. Federal Reserve Board, “Mean Value of Mortgages or Home-Equity Loans for Families with Holdings,” in *SCF Chartbook*, June 15, 2009, tables updated to February 18, 2010.
26. Christopher Cruise, interview by FCIC, August 24, 2010.
27. *Ibid.*
28. Robert Kuttner, interview by FCIC, August 5, 2010.
29. Timothy Geithner, testimony before the FCIC, Hearing on the Shadow Banking System, day 2, session 2: Perspective on the Shadow Banking System, May 6, 2010, transcript, p. 146.
30. James Ryan, chief marketing officer at CitiFinancial and John Schachtel, executive vice president of CitiFinancial, interview by FCIC, February 3, 2010.
31. These points were made to the FCIC by consumer advocates: e.g., Kevin Stein, associate director, California Reinvestment Coalition, at the Hearing on the Impact of the Financial Crisis—Sacramento, session 2: Mortgage Origination, Mortgage Fraud and Predatory Lending in the Sacramento Region, September 23, 2010; Gail Burks, president and CEO, Nevada Fair Housing Center, at the Hearing on the Impact of the Financial Crisis—State of Nevada, session 3: The Impact of the Financial Crisis on Nevada Real Estate, September 8, 2010. See also Federal Reserve Consumer Advisory Council transcripts, March 25, 2004; June 24, 2004; October 28, 2004; March 17, 2005; October 27, 2005; June 22, 2006; October 26, 2006.

32. Bob Gnaizda, interview by FCIC, March 25, 2010.
33. James Rokakis, interview by FCIC, November 8, 2010.
34. *Ibid.*
35. Fed Governor Edward M. Gramlich, “Tackling Predatory Lending: Regulation and Education,” remarks at Cleveland State University, Cleveland, Ohio, March 23, 2001.
36. Rokakis, interview.
37. John Taylor, chairman and chief executive officer, National Community Reinvestment Coalition, letter to Office of Thrift Supervision, July 3, 2000, provided to the FCIC.
38. Stein, testimony before the FCIC, transcript, pp. 73–74, 71.
39. U.S. Department of the Treasury and U.S. Department of Housing and Urban Development, “Joint Report on Recommendations to Curb Predatory Home Mortgage Lending” (June 1, 2000).
40. Federal Reserve Board press release, December 12, 2001.
41. Sheila C. Bair, written testimony for the FCIF, First Public Hearing of the FCIC, day 2, panel 1: Current Investigations into the Financial Crisis—Federal Officials, January 14, 2010, p. 11.
42. Fed Governor Edward M. Gramlich, “Predatory Lending,” remarks at the Housing Bureau for Seniors Conference, , January 18, 2002.
43. Sheila C. Bair, testimony before the FCIC, First Public Hearing of the FCIC, day 2, panel 1: Current Investigations into the Financial Crisis—Federal Officials, January 14, 2010, transcript, p. 97.
44. Sheila C. Bair, interview by FCIC, March 29, 2010.
45. *2009 Mortgage Market Statistical Annual*, 1:220, “Top B&C Lenders in 2000”; 1.223, “Top B&C Lenders in 2003.”
46. *Ibid.*, 1:237, “Subprime Origination by State in 2001”; and 1:235, “Subprime Originations by State in 2003.”
47. Stein, testimony before the FCIC, September 23, 2010, transcript, p. 72.
48. Gail Burks, interview by FCIC, August 30, 2010.
49. Lisa Madigan, written testimony for the FCIC, First Public Hearing of the FCIC, day 1, panel 2: Current Investigations into the Financial Crisis—State and Local Officials, January 14, 2010, p. 4–5; “Home Mortgage Lender settled ‘Predatory Lending’ Charges,” Federal Trade Commission press release, March 21, 2002.
50. *2009 Mortgage Market Statistical Annual*, 1:220, “Top 25 B&C Lenders in 2003.”
51. Madigan, written testimony for the FCIC, January 14, 2010, pp. 4–5.
52. Ed Parker, interview by FCIC, May 26, 2010.
53. Prentiss Cox, interview by FCIC, October 15, 2010.
54. *Ibid.*
55. *2009 Mortgage Market Statistical Annual*, 1:45, 47, 49, 51.
56. Alphonso Jackson, interview by FCIC, October 6, 2010.
57. Cox, interview; Madigan, written testimony for the FCIC, January 14, 2010, p. 11.
58. Cox, interview. Madigan, testimony before the FCIC, January 14, 2010, transcript, pp. 121–122.
59. John D. Hawke Jr. and John C. Dugan, written statements for the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 2, session 2: Office of the Comptroller of the Currency, April 8, 2010, pp. 4–5 and pp. 4–8, respectively.
60. Madigan, written testimony for the FCIC, January 14, 2010, pp. 9, 10.
61. Cox, interview.
62. *2009 Mortgage Market Statistical Annual*, 1:4, “Mortgage Originations by Product.” Nonprime = Alt-A and subprime combined.
63. Marc S. Savitt, interview by FCIC, November 17, 2010.
64. Rob Barry, Matthew Haggman, and Jack Dolan, “Ex-convicts active in mortgage fraud,” *Miami Herald*, January 29, 2009.
65. J. Thomas Cardwell, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Miami, session 3: The Regulation, Oversight, and Prosecution of Mortgage Fraud in Miami, September 21, 2010, p. 8.
66. Savitt, interview.
67. Gary Crabtree, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Greater Bakersfield, session 4: Local Housing Market, September 7, 2010, p. 6.
68. *Ibid.*

69. Gary Crabtree, interview by FCIC, August 18, 2010. Crabtree, written testimony for the FCIC, September 7, 2010, pp. 6–7.
70. “FBI Warns of Mortgage Fraud ‘Epidemic’ from Terry Frieden,” CNN news report, September 17, 2004.
71. Kirstin Downey, “FBI Vows to Crack Down on Mortgage Fraud; Hot Real Estate Market Drives Reports of ‘Suspicious’ Activity, Agency Says,” *Washington Post*, February 15, 2005.
72. Financial Crimes Enforcement Network, Regulatory Policy and Programs Division, “Mortgage Loan Fraud: An Industry Assessment Based upon Suspicious Activity Report Analysis,” November 2006. See also Financial Crimes Enforcement Network, “Annual Report: Fiscal Year 2008.”
73. FinCEN response to FCIC interrogatories, October 14–15, 2010.
74. William K. Black, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Miami, session 1: Overview of Mortgage Fraud, September 21, 2010, p. 8.
75. Alberto Gonzales, interview by FCIC, November 1, 2010; Michael Mukasey, interview by FCIC, October 20, 2010.
76. Federal Reserve Consumer Advisory Council Meeting, October 28, 2004, transcript, p. 44.
77. *Ibid.*, p. 45.
78. Ruhi Maker, interview by FCIC, October 25, 2010.
79. Kirstin Downey, “Many Buyers Opt for Risky Mortgages,” *Washington Post*, May 28, 2005.
80. “After the Fall: Soaring house prices have given a huge boost to the world economy. What happens when they drop?” *The Economist*, June 16, 2005.
81. Fed Chairman Alan Greenspan, “The Economic Outlook,” prepared testimony before the Joint Economic Committee, 109th Cong., 1st sess., June 9, 2005.
82. *Ibid.*
83. Fed Chairman Ben S. Bernanke, “The Economic Outlook,” prepared testimony before the Joint Economic Committee, U.S. Congress, 110th Cong., 1st sess., March 28, 2007.
84. Sheila Canavan, comments during of the Federal Reserve Consumer Advisory Council Meeting, October 27, 2005, transcript, p. 52.
85. David Leonhardt, “Be Warned: Mr. Bubble’s Worried Again,” *New York Times*, August 21, 2005.
86. Raghuram Rajan, interview by FCIC, November 22, 2010.
87. *Ibid.*
88. *Ibid.*
89. Raghuram G. Rajan, *Fault Lines: How Hidden Fractures Still Threaten The World Economy* (Princeton: Princeton University Press, 2010), p. 3.
90. Susan M. Wachter, interview by FCIC, October 6, 2010.
91. Mark Klipsch, quoted in “Blizzard Can’t Stop ASF 2005 Conference,” *Asset Securitization Report*, January 31, 2005.
92. Dennis J. Black, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Miami, session 2: Uncovering Mortgage Fraud in Miami, September 21, 2010, p. 1; for the appraiser’s petition, see <http://appraiserspetition.com/>.
93. Karen Mann, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Sacramento, session 2: Mortgage Origination, Mortgage Fraud and Predatory Lending in the Sacramento Region, September 23, 2010.
94. 2009 *Mortgage Market Statistical Annual*, vol. 2, *The Secondary Market*, p. 13, “Non-Agency MBS Issuance by Type,” and FCIC staff estimates based on analysis of Moody’s SFDRS data.
95. Jamie Dimon, testimony before the FCIC, First Public Hearing of the FCIC, day 1, panel 1: Financial Institution Representatives, January 13, 2010, transcript, p. 78.
96. Madelyn Antoncic, interview by FCIC, July 14, 2010.
97. Anton R. Valukas, Report of Examiner, *In re Lehman Brothers Holdings Inc.*, et al., Chapter 11 Case No. 08-13555 (JMP), (Bankr. S.D.N.Y.), March 11, 2010, 1:114, with n. 418.
98. Richard Bowen, interview by FCIC, February 27, 2010.
99. Richard Bowen, email to Robert Rubin, David Bushnell, Gary Crittenden, and Bonnie Howard, November 3, 2007.

100. Robert Rubin, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Entities (GSEs), day 2, session 1: Citigroup Senior Management, April 8, 2010, transcript, p. 30.

101. Brad S. Karp, counsel for Citigroup, letter to FCIC, November 1, 2010, in response to FCIC request of September 21, 2010, for information regarding Richard Bowen's November 3, 2007, email, p. 2.

102. Bowen, interview.

103. J. Kyle Bass, testimony before the FCIC, First Public Hearing of the FCIC, day 1, panel 2: Financial Market Participants, January 13, 2010, transcript, pp. 143–44.

104. Herbert M. Sandler, "Comment on Joint ANPR for Proposed Revision to the Existing Risk-based Capital Rule," letter to Federal Reserve Board, Office of the Comptroller of the Currency, Federal Deposit Insurance Corporation, and Office of Thrift Supervision, January 18, 2006.

105. Lewis Ranieri, interview by FDIC, July 30, 2010.

106. Angelo Mozilo, email to Eric Sieracki, April 13, 2006, re: 1Q2006 Earnings.

107. Angelo Mozilo, email to David Sambol, April 17, 2006, subject: sub-prime seconds.

108. David Sambol, email to Angelo Mozilo, April 17, 2006, re: Sub-prime seconds (cc Kurland, McMurray, and Bartlett).

109. Angelo Mozilo, email to David Sambol, April 17, 2006, subject: re: Sub-prime seconds (cc Kurland, McMurray, and Bartlett).

110. Sabeth Siddique, interview by FCIC, September 9, 2010.

111. "Survey of Nontraditional Mortgages" (actual title redacted), confidential Federal Reserve document obtained by FCIC, produced November 1, 2005, pp. 2, 3.

112. Susan Bies, interview by FDIC, October 11, 2010.

113. John Dugan, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 2, session 2: Office of the Comptroller of the Currency, April 8, 2010, transcript,

114. Sabeth Siddique, interviews by FCIC, September 9, 2010, and October 25, 2010.

115. Bies, interview.

116. Mortgage Insurance Companies of America, quoted in Kirstin Downey, "Insurers Want Action on Risky Mortgages; Firms Want More Loan Restrictions," *Washington Post*, August 19, 2006.

117. William A. Sampson, Mortgage Insurance Companies of America, "MICA Testimony on Non-Traditional Mortgages," before the Senate Subcommittee on Housing and Transportation and the Subcommittee on Economic Policy, 109th Cong., 2nd sess., September 20, 2006.

118. Siddique, interviews, October 25, 2010, and September 9, 2010.

119. Consumer Advisory Council Meeting, March 30, 2006, transcript.

120. Consumer Advisory Council Meeting, June 22, 2006, transcript.

121. Siddique, interview, October 25, 2010; Bies, interview.

122. There is no central clearinghouse to calculate structured finance assets. The FCIC's estimate is based on the amount of structured finance assets rated by Moody's along with unrated agency RMBS, along with an estimate for structured finance assets not rated by Moody's, using as sources Fannie Mae and Freddie Mac, Bloomberg, American CoreLogic Loan Performance, Fitch Ratings, Moody's, S&P, Thomson Reuters, and SIFMA.

123. Alan Greenspan, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 1, session 1: The Federal Reserve, April 7, 2010, transcript, p. 29.

124. Mortgage Bankers Association, "National Delinquency Survey."

125. CoreLogic, Inc., August 26, 2010, news release, second quarter, 2010. Second-quarter figures were an improvement from 11.2 million residential properties (24%) in negative equity in the first quarter of 2010.

126. Mark Zandi, written testimony for the FCIC, First Public Hearing of the FCIC, day 1, panel 3: Financial Crisis Impacts on the Economy, January 13, 2010, pp. 14, 15.

127. Dean Baker, interview by FCIC, August 18, 2010.

128. Warren Peterson, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Greater Bakersfield, session 3: Residential and Community Real Estate, September 7, 2010, transcript, pp. 106–7, 119–20, 107–8; Warren Peterson, interview by FCIC, August 24, 2010.

### Chapter 2

1. Ben Bernanke, written testimony before the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 1, session 1, September 2, 2010, p. 2.
2. Alan Greenspan, "The Evolution of Banking in a Market Economy," remarks at the Annual Conference of the Association of Private Enterprise Education, Arlington, Virginia, April 12, 1997.
3. Charles Calomiris and Gary Gorton, "The Origins of Banking Panics: Models, Facts, and Bank Regulation," in Calomiris, *U.S. Bank Deregulation in Historical Perspective* (Cambridge: Cambridge University Press, 2000), pp. 98–100. Prior to the end of the Civil War, banks issued notes instead of holding deposits. Runs on that system occurred in 1814, 1819, 1837, 1839, 1857, and 1861 (*ibid.*, pp. 98–99).
4. R. Alton Gilbert, "Requiem for Regulation Q: What It Did and Why It Passed Away," *Federal Reserve Bank of St. Louis Review* 68, no. 2 (February 1986): 23.
5. FCIC, "Preliminary Staff Report: Shadow Banking and the Financial Crisis," May 4, 2010, pp. 18–25.
6. Arthur E. Wilmarth Jr., "The Transformation of the U.S. Financial Services Industry, 1975–2000: Competition, Consolidation, and Increased Risks," *University of Illinois Law Review* (2002): 239–40.
7. Frederic S. Mishkin, "Asymmetric Information and Financial Crises: A Historical Perspective," in *Financial Markets and Financial Crises*, ed. R. Glenn Hubbard (Chicago: University of Chicago Press, 1991), p. 99; Wilmarth, "The Transformation of the U.S. Financial Services Industry, 1975–2000," p. 236.
8. Federal Reserve Board Flow of Funds Release, table L.208. Accessed December 29, 2010.
9. Kenneth Garbade, "The Evolution of Repo Contracting Conventions in the 1980s," *Federal Reserve Bank of New York Economic Policy Review* 12, no. 1 (May 2006): 32–33, 38–39 (available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=918498](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=918498)). To implement monetary policy, the Federal Reserve Bank of New York uses the repo market: it sets interest rates by borrowing Treasuries from and lending them to securities firms, many of which are units of commercial banks.
10. Alan Blinder, interview by FCIC, September 17, 2010.
11. Paul Volcker, interview by FCIC, October 11, 2010.
12. Fed Chairman Alan Greenspan, "International Financial Risk Management," remarks before the Council on Foreign Relations, November 19, 2002.
13. Richard C. Breeden, interview by FCIC, October 14, 2010.
14. Wilmarth, "The Transformation of the U.S. Financial Services Industry, 1975–2000," p. 241 and n. 102.
15. Thereafter, banks were only required to lend on collateral and set terms based upon what the market was offering. They also could not lend more than 10% of their capital to one subsidiary or more than 20% to all subsidiaries. Order Approving Applications to Engage in Limited Underwriting and Dealing in Certain Securities," *Federal Reserve Bulletin* 73, no. 6 (Jul. 1987): 473–508; "Revenue Limit on Bank-Ineligible Activities of Subsidiaries of Bank Holding Companies Engaged in Underwriting and Dealing in Securities," *Federal Register* 61, no. 251 (Dec. 30, 1996), 68750–56.
16. Julie L. Williams and Mark P. Jacobsen, "The Business of Banking: Looking to the Future," *Business Lawyer* 50 (May 1995): 798.
17. Fed Chairman Alan Greenspan, prepared testimony before the House Committee on Banking and Financial Services, *H.R. 10, the Financial Services Competitiveness Act of 1997*, 105th Cong., 1st sess., May 22, 1997.
18. FCIC staff calculations.
19. FCIC staff calculations.
20. FCIC staff calculations using First American/CoreLogic, National HPI Single-Family Combined (SFC).
21. This data series is relatively new. Those series available before 2009 showed no year-over-year national house price decline. First American/CoreLogic, National HPI Single-Family Combined (SFC).
22. For a general overview of the banking and thrift crisis of the 1980s, see FDIC, *History of the Eighties: Lessons for the Future*, vol. 1, *An Examination of the Banking Crises of the 1980s and Early 1990s* (Washington, DC: Federal Deposit Insurance Corporation, 1997).

23. Specifically, between 1980 and 1994, 1,617 federally insured banks with \$302.6 billion in assets and 1,295 savings and loans with \$621 billion in assets either closed or received FDIC or FSLIC assistance. See Federal Deposit Insurance Corp., *Managing the Crisis: The FDIC and RTC Experience, 1980–1994* (Aug. 1998), pp. 4, 5.

24. William K. Black, Associate Professor of Economics and Law, University of Missouri–Kansas City, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis, session 1: Overview of Mortgage Fraud, September 21, 2010, p. 4. And see Kitty Calavita, Henry N. Pontell, and Robert H. Tillman, *Big Money Crime: Fraud and Politics in the Savings and Loan Crisis* (Berkeley: University of California Press, 1997), p. 28.

25. FDIC, *History of the Eighties: Lessons for the Future*, 1:39.

26. U.S. Treasury Department, “Modernizing the Financial System: Recommendations for Safer, More Competitive Banks” (February 1991), p. 55.

27. Testimony of John LaWare, Governor, Federal Reserve Board, at Hearings before Subcommittee on Economic Stabilization of the Committee on Banking, Finance, and Urban Affairs on the “Economic Implications of the Too Big to Fail Policy,” May 9, 1991, p. 11, <http://fraser.stlouisfed.org/publications/tbtf/issue/3954/download/61094/housetbtf1991.pdf>.

FDIC, *History of the Eighties: Lessons for the Future*, 1:251.

28. George G. Kaufman, “Too Big to Fail in U.S. Banking: Quo Vadis?” in *Too Big to Fail: Policies and Practices in Government Bailouts*, ed. Benton E. Gup (Westport, CT: Praeger, 2004), p. 163.

29. FCIC, “Preliminary Staff Report: Too-Big-to-Fail Financial Institutions,” August 31, 2010, pp. 6–9. (Rep. McKinney is quoted from the transcript of the hearing before the House Committee on Banking, Housing, and Urban Affairs).

30. *Ibid.*, pp. 10, 19.

### Chapter 3

1. Federal National Mortgage Association, *Federal National Mortgage Association, Background and History* (1975).

2. Department of Housing and Urban Development, *1986 Report to Congress on the Federal National Mortgage Association* (1987), p. 100.

3. See, e.g., Kenneth H. Bacon, “Privileged Position: Fannie Mae Expected to Escape Attempt at Tighter Regulation,” *Wall Street Journal*, June 19, 1992, and Stephen Labaton, “Power of the Mortgage Twins: Fannie and Freddie Guard Autonomy,” *New York Times*, November 12, 1991.

4. Armando Falcon Jr., written testimony for the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 3, session 2: Office of Federal Housing Enterprise Oversight, April 9, 2010, p. 2.

5. Wayne Passmore, “The GSE Implicit Subsidy and the Value of Government Ambiguity,” Federal Reserve Board Staff Working Paper 2005–05. See also Congressional Budget Office, “Updated Estimates of the Subsidies to the Housing GSEs,” April 8, 2004.

6. Federal Housing Finance Agency, *Report to Congress, 2009* (2010), pp. 141, 158.

7. Fannie Mae Charter Act of 1968, §309(h), codified at 12 U.S.C. §1723a(h). The 1992 Federal Housing Enterprises Financial Safety and Soundness Act repealed this provision and replaced it with more elaborate provisions. Currently, the GSEs typically define low- and moderate-income borrowers as those with income at or below median income for a given area.

8. Department of Housing and Urban Development, “Regulations Implementing the Authority of the Secretary of the Department of Housing and Urban Development over the conduct of the Secondary market Operations of the Federal National Mortgage Association (FNMA),” *Federal Register* 43, no. 158 (August 15, 1978): 36199–226.

9. President William J. Clinton, “Remarks on the National Homeownership Strategy,” June 5, 1995.

10. President George W. Bush, “President’s Remarks to the National Association of Home Builders,” Greater Columbus Convention Center, Columbus, Ohio, October 2, 2004.

11. Andrew Cuomo, interview by FCIC, December 17, 2010.

12. Daniel Mudd, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 3, session 1: Fannie Mae, April 9, 2010, transcript, pp. 18–19.



13. Richard Syron, interview by FCIC, August 31, 2010.
14. Senate Lobbying Disclosure Act Database ([www.senate.gov/legislative/Public\\_Disclosure/LDA\\_reports.htm](http://www.senate.gov/legislative/Public_Disclosure/LDA_reports.htm)); figures on employees and PACs compiled by the Center for Responsive Politics from Federal Elections Commission data.
15. Falcon, written testimony for the FCIC, April 9, 2010, p. 5.
16. James Lockhart, written testimony for the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 3, session 2: Office of Federal Housing Enterprise Oversight, pp. 4–8, 17 (quotation).
17. Senator Mel Martinez, interview by FCIC, September 28, 2010.
18. June E. O'Neill, remarks before the Conference on Appraising Fannie Mae and Freddie Mac, Washington, D.C., May 14, 1998, p. 8.
19. Federal Housing Finance Agency, *Report to Congress, 2008* (2009), tables 3, 4, 12, and 13.
20. Lawrence Lindsey, interview by FCIC, September 20, 2010.
21. Jim Callahan, interview by FCIC, October 18, 2010.
22. Securities Industry and Financial Markets Association (SIFMA), US ABS Outstanding.
23. Scott Patterson, interview by FCIC, August 12, 2010.
24. Gillian Tett, *Fool's Gold: How the Bold Dream of a Small Tribe at J. P. Morgan Was Corrupted by Wall Street Greed and Unleashed a Catastrophe* (New York: Free Press, 2009), pp. 32–33, 49, 70, 115.
25. Emmanuel Derman, interview by FCIC, May 12, 2010.
26. Volcker, interview.
27. Vincent Reinhart, interview by FCIC, September 10, 2010.
28. Lindsey, interview.
29. A futures contract is a bilateral contract in which one party, the long position, is compensated if the price or index or rate underlying the contract rises while the other party, the short position, is compensated if it goes down. An options contract grants the right but not the obligation to purchase or sell a commodity or financial instrument at a particular price in the future; the option holder derives a benefit if the price moves in his or her favor. In a swaps contract, the two parties exchange streams of payments based on different benchmarks.
30. Securities options are regulated by the SEC.
31. Commodity Futures Trading Commission, Exemption for Certain Swap Agreements, Final Rule, *Federal Register* 58 (January 22, 1993): 5587.
32. Brooksley Born, chairperson, Commodity Futures Trading Commission, “Concerning the Over-the-Counter Derivatives Market,” prepared testimony before the House Committee on Banking and Financial Services, 105th Cong., 2nd sess., July 24, 1998.
33. GAO, “Financial Derivatives: Actions Needed to Protect the Financial System,” GGD-94-133 (Report to Congressional Requesters), May 18, 1994.
34. Commodity Futures Trading Commission, “Division of Enforcement” ([www.cftc.gov/anr/anrenf98.htm](http://www.cftc.gov/anr/anrenf98.htm)).
35. “Joint Statement by Treasury Secretary Robert E. Rubin, Federal Reserve Board Chairman Alan Greenspan, and Securities and Exchange Commission Chairman Arthur Levitt,” Treasury Department press release, May 7, 1998.
36. Fed Chairman Alan Greenspan, “The Regulation of OTC Derivatives,” prepared testimony before the House Committee on Banking and Financial Services, 105th Cong., 2nd sess., July 24, 1998.
37. GAO, “Long-Term Capital Management: Regulators Need to Focus Greater Attention on Systemic Risk,” GAO/GGD-00-3 (Report to Congressional Requesters), October 1999, pp. 7, 18, 39–40. The notional amount of OTC derivatives contracts is a standard measure used in reporting the outstanding volume of such contracts. Its calculation is based on the value of the underlying instrument, commodity, index, or rate that the swap is based on. It therefore may be of limited use in measuring the potential exposure of the parties to the contracts. For example, an interest rate swap based on changes in interest rate on a \$100 million loan would likely involve only a small percentage of the \$100 million notional amount. On the other hand, price changes on an oil swap based on \$100 million worth of oil could be even more than the notional amount, depending on the volatility in oil prices. For credit default swaps, which are discussed in more detail later in this volume, the notional amount is usually a close measure of the potential financial exposure of the issuer or seller of the swap.



38. Fed Chairman Alan Greenspan, “Private-sector Refinancing of the Large Hedge Fund, Long-Term Capital Management,” prepared testimony before the House Committee on Banking and Financial Services, 105th Cong., 2nd sess., October 1, 1998.

39. Fed Chairman Alan Greenspan, “Financial Derivatives,” remarks before the Futures Industry Association, Boca Raton, Florida, March 19, 1999.

40. “Over-the-Counter Derivatives Markets and the Commodity Exchange Act,” report of the President’s Working Group on Financial Markets, November 1999.

41. Gross market value is the current price at which the outstanding swaps contract can be sold or replaced on the market. As such, that amount reflects the current amount owing on a contract but does not reflect the possible future exposure on these generally long-term instruments.

42. Bank for International Settlements, data on semiannual OTC derivatives statistics.

43. Alan Greenspan, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Entities (GSEs), day 1, session 1: The Federal Reserve, April 1, 2010, transcript, pp. 88–89.

44. Robert Rubin, testimony before the FCIC, FCIC Hearing on Subprime Lending and Securitization and Government-Sponsored Entities (GSEs), day 2, session 1: Citigroup Senior Management, April 8, 2010, transcript, pp. 108–10, 123–24.

45. Lawrence Summers, interview by FCIC, May 28, 2010.

46. Daniel K. Tarullo, *Banking on Basel: The Future of International Financial Regulation* (Washington, DC: Peterson Institute for International Economics, 2008), p. 58.

47. Final Rule—Amendment to Regulations H and Y,” *Federal Reserve Bulletin* 75, no. 3 (March 1989), 164–66.

48. Tarullo, *Banking on Basel*, pp. 61–64.

49. For more on derivatives, see FCIC, “Preliminary Staff Report: Overview on Derivatives,” June 29, 2010.

50. Warren Buffett, testimony before the FCIC, Hearing on the Credibility of Credit Ratings, the Investment Decisions Made Based on Those Ratings, and the Financial Crisis, session 2: Credit Ratings and the Financial Crisis, June 2, 2010, transcript, pp. 312, 326, 325.

51. Eric R. Dinallo, former superintendent, New York State Insurance Department, written testimony for the FCIC, Hearing on the Role of Derivatives in the Financial Crisis, session 2, Derivatives: Supervisors and Regulators, July 1, 2010, p. 7; Rochelle Katz, State of New York Insurance Department, letter to Bertil Lundqvist, Skadden, Arps, Slate, Meagher & Flom, LLP, June 16, 2000.

52. Data provided by AIG to the FCIC, CDS notional balances at year-end.

53. Bank for International Settlements, semiannual OTC derivatives statistics.

54. Dinallo testified that the market in CDS in September 2008 was estimated to be \$62 trillion at a time when there was about \$16 trillion of private-sector debt (written testimony for the FDIC, July 1, 2010, p. 9).

55. “AIGFP also participates as a dealer in a wide variety of financial derivatives transactions” (AIG, 2007 Form 10-K, p. 83). AIG’s notional derivatives outstanding were \$2.1 trillion at the end of 2007, including \$1.2 trillion of interest rate swaps, \$0.6 trillion of credit derivatives, \$0.2 trillion of currency swaps, and \$0.2 trillion of other derivatives (p. 163).

56. FCIC staff calculations using data from Office of the Comptroller of the Currency; call reports.

57. Data provided to the FCIC by Goldman Sachs.

#### Chapter 4

1. 103 Public Law 103-328, September 29, 1994. Before the 1994 legislation, some states had voluntarily opened themselves up to out-of-state banks. FDIC, *History of the Eighties: Lessons for the Future*, vol. 1, *An Examination of the Banking Crises of the 1980s and Early 1990s* (Washington, DC: FDIC, 1997), p. 130.

2. These were the largest banks as of 2007. See FCIC, “Preliminary Staff Report: Too-Big-to-Fail Financial Institutions,” August 31, 2010, p. 14.

3. Data from SNL Financial ([www.snl.com/](http://www.snl.com/)).

4. Public Law 104-208, sec. 2222, codified as 12 U.S.C. § 3311; law in effect as of January 3, 2007.

5. Arthur Levitt, interview by FCIC, October 1, 2010.

6. John D. Hawke and John Dugan, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 2, session 2: Office of the Comptroller of the Currency, April 8, 2010, transcript, pp. 169, 175.

7. Fed Vice Chairman Roger W. Ferguson Jr., “The Future of Financial Services—Revisited,” remarks at the Future of Financial Services Conference, University of Massachusetts, Boston, October 8, 2003.

8. Fed Chairman Alan Greenspan, “Government Regulation and Derivative Contracts,” speech at the Financial Markets Conference of the Federal Reserve Bank of Atlanta, Coral Gables, Florida, February 21, 1997.

9. Richard Spillenkothen, “Notes on the performance of prudential supervision in the years preceding the financial crisis by a former director of banking supervision and regulation at the Federal Reserve Board (1991 to 2006),” May 31, 2010, p. 28.

10. See U.S. Department of the Treasury, *Modernizing the Financial System* (February 1991), pp. XIX-5, XIX-6, 67–69: “the existence of fewer agencies would concentrate regulatory power in the remaining ones, raising the danger of arbitrary or inflexible behavior. . . . Agency pluralism, on the other hand, may be useful, since it can bring to bear on general bank supervision the different perspectives and experiences of each regulator, and it subjects each one, where consultation and coordination are required, to the checks and balances of the others’ opinion.”

11. Fed Chairman Alan Greenspan, statement before the Senate Committee on Banking, Housing, and Urban Affairs, 103rd Cong., 2nd sess., March 2, 1994, reprinted in the *Federal Reserve Bulletin*, May 1, 1994, p. 382.

12. Securities Industry Association v. Board of Governors of the Federal Reserve System, 627 F.Supp. 695 (D.D.C. 1986); Kathleen Day, “Reinventing the Bank; With Depression-Era Law about to Be Rewritten, the Future Remains Unclear,” *Washington Post*, October 31, 1999.

13. Edward Yingling, quoted in “The Making of a Law,” *ABA Banking Journal*, December 1999.

14. The two-year exemption is contained in section 4(a)(2) of the Bank Holding Company Act. The Fed could have granted up to three one-year extensions of that exemption.

15. FCIC staff computations based on data from the Center for Responsive Politics. “Financial sector” here includes insurance companies, commercial banks, securities and investment firms, finance and credit companies, accountants, savings and loan institutions, credit unions, and mortgage bankers and brokers.

16. U.S. Department of the Treasury, *Modernizing the Financial System* (February 1991); Fed Chairman Alan Greenspan, “H.R. 10, the Financial Services Competitiveness Act of 1997,” testimony before the House Committee on Banking and Financial Services, 105th Cong., 1st sess., May 22, 1997.

17. Katrina Brooker, “Citi’s Creator, Alone with His Regrets,” *New York Times*, January 2, 2010.

18. John Reed, interview by FCIC, March 24, 2010.

19. FDIC Institution Directory; SNL Financial.

20. Fed Governor Laurence H. Meyer, “The Implications of Financial Modernization Legislation for Bank Supervision,” remarks at the Symposium on Financial Modernization Legislation, sponsored by Women in Housing and Finance, Washington, D.C., December 15, 1999.

21. Ben S. Bernanke, written testimony before the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 1, session 1: The Federal Reserve, September 2, 2010, p. 14.

22. Patricia A. McCoy et al., “Systemic Risk through Securitization: The Result of Deregulation and Regulatory Failure,” *Connecticut Law Review* 41 (2009): 1345–47, 1353–55.

23. Fed Chairman Alan Greenspan, “Lessons from the Global Crises,” remarks before the World Bank Group and the International Monetary Fund, Program of Seminars, Washington, DC, September 27, 1999.

24. David A. Marshall, “The Crisis of 1998 and the Role of the Central Bank,” Federal Reserve Bank of Chicago, *Economic Perspectives* (1Q 2001): 2.

25. Commercial and industrial loans at all commercial banks, monthly, seasonally adjusted, from the Federal Reserve Board of Governors H.8 release; FCIC staff calculation of average change in loans outstanding over any two consecutive months in 1997 and 1998.

26. Franklin R. Edwards, “Hedge Funds and the Collapse of Long-Term Capital Management,” *Journal of Economic Perspectives* 13 (1999): 198.

27. "Hedge Funds, Leverage, and the Lessons of Long-Term Capital Management," Report of the President's Working Group on Financial Markets, April 1999, p. 14.
28. Edwards, "Hedge Funds and the Collapse of Long-Term Capital Management," pp. 200, 197; and Bloomberg.
29. *Ibid.*, pp. 197–205; Roger Lowenstein, *When Genius Failed: The Rise and Fall of Long-Term Capital Management* (New York: Random House, 2000), pp. 36–54, 77–84, 94–105, 123–30.
30. "Hedge Funds, Leverage, and the Lessons of Long-Term Capital Management," pp. 11–12.
31. William J. McDonough, president of the Federal Reserve Bank of New York, statement before the House Committee on Banking and Financial Services, 105th Cong., 2nd sess., October 1, 1998.
32. GAO, "Long-Term Capital Management: Regulators Need to Focus Greater Attention on Systemic Risk," GAO/GGD-00-3 (Report to Congressional Requesters), October 1999, p. 39.
33. "Hedge Funds, Leverage, and the Lessons of Long-Term Capital Management," pp. 13–14.
34. Lowenstein, *When Genius Failed*, pp. 205–18.
35. McDonough, statement before the House Committee on Banking and Financial Services, October 1, 1998.
36. Andrew F. Brimmer, "Distinguished Lecture on Economics in Government: Central Banking and Systemic Risks in Capital Markets," *Journal of Economic Perspectives*, no. 2 (Spring 1989) (lecture by a former Fed governor, analyzing the Fed's market interventions in 1970, 1980 and 1987, and concluding that the Fed had consciously assumed a "strategic role as the ultimate source of liquidity in the economy at large"); Keith Garbade, "The Evolution of Repo Contracting Conventions in the 1980s," Federal Reserve Bank of New York *Economic Policy Review* (May 2006): 33.
37. Harvey Miller, interview by FCIC, August 5, 2010.
38. Stanley O'Neal, interview by FCIC, September 16, 2010.
39. Fed Chairman Alan Greenspan, "Do efficient financial markets mitigate financial crises?" remarks before the 1999 Financial Markets Conference of the Federal Reserve Bank of Atlanta, October 19, 1999 ([www.federalreserve.gov/boarddocs/speeches/1999/19991019.htm](http://www.federalreserve.gov/boarddocs/speeches/1999/19991019.htm)).
40. "Hedge Funds, Leverage, and the Lessons of Long-Term Capital Management," p. 16.
41. *Ibid.*
42. *Ibid.*
43. Philip Goldstein, et al. v. SEC, Opinion, Case No. 04-1434 (D.C. Cir. June 23, 2006).
44. *Time*, February 15, 1999; Bob Woodward, *Maestro: Greenspan's Fed and the American Boom* (New York: Simon & Schuster, 2000).
45. SIFMA (Securities Industry and Financial Markets Association), *Fact Book 2008*, pp. 9–10.
46. Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release Z.1: Flow of Funds Accounts of the United States*, 4th Qtr. 1996, p. 88 (Table L.213, line 18); 4th Qtr. 2001, p. 90 (Table L.213, line 20).
47. SEC Chairman William H. Donaldson, "Testimony Concerning Global Research Analyst Settlement," before the Senate Committee on Banking, Housing and Urban Affairs, 108th Cong., 1st sess., May 7, 2003.
48. SEC, "SEC Fact Sheet on Global Analyst Research Settlements," April 30, 2003; Financial Industry Regulatory Authority news release, "NASD Fines Piper Jaffray \$2.4 Million for IPO Spinning," July 12, 2004.
49. Arthur E. Wilmarth Jr., "Conflicts of Interest and Corporate Governance Failures at Universal Banks During the Stock Market Boom of the 1990s: The Cases of Enron and WorldCom," George Washington University Public Law and Legal Theory Working Paper 234 (2007).
50. Fed Chairman Alan Greenspan, "International Financial Risk Management," remarks before the Council on Foreign Relations, Washington, DC, November 19, 2002.
51. Ferguson, "The Future of Financial Services—Revisited."
52. Spillenkothen, "Notes on the performance of prudential supervision in the years preceding the financial crisis," p. 28.
53. "First the Put; Then the Cut?" *Economist*, December 16, 2000, p. 81.

54. Fed Chairman Alan Greenspan, "Risk and Uncertainty in Monetary Policy," remarks at the Meetings of the American Economic Association, San Diego, California, January 3, 2004. See also Fed Governor Ben S. Bernanke, "Asset-Price 'Bubbles' and Monetary Policy," remarks before the N.Y. Chapter of the National Association of Business Economics, New York, October 15, 2002.

55. Fed Chairman Alan Greenspan, "Reflections on Central Banking," remarks at a symposium sponsored by the Federal Reserve Board of Kansas City, Jackson Hole, Wyoming, August 26, 2005.

56. Lawrence Lindsey, interview by FCIC, September 20, 2010.

57. The NYSE decided in 1970 to allow members to be publicly traded. See Andrew von Nordenflycht, "The Demise of the Professional Partnership? The Emergence and Diffusion of Publicly-Traded Professional Service Firms" (draft paper, Faculty of Business, Simon Fraser University, September 2006), pp. 20–21.

58. Peter Solomon, written testimony for the FCIC, First Public Hearing of FCIC, day 1, panel 2: Financial Market Participants, January 13, 2010, p. 2.

59. Brian R. Leach, interview by FCIC, March 4, 2010, p. 22.

60. Jian Cai, Kent Cherny, and Todd Milbourn, "Compensation and Risk Incentives in Banking and Finance," Federal Reserve Bank of Cleveland *Economic Commentary* (September 14, 2010).

61. Carola Frydman and Raven E. Saks, "Historical Trends in Executive Compensation, 1936–2005" (2007), p.3.

62. Cai, Cherny, and Milbourn, "Compensation and Risk Incentives in Banking and Finance."

63. Goldman Sachs, 2006 and 2009 10-K; Morgan Stanley, 2008 10-K; Merrill Lynch, 2005 and 2008 10-K.

64. "Gutfreund's Pay Is Cut," *New York Times*, December 23, 1987.

65. Merrill Lynch, "2007 Proxy Statement," p. 38.

66. Goldman Sachs, "Proxy Statement for 2008 Annual Meeting of Shareholders," March 7, 2008, p. 16; Blankfein received \$600,000 base salary and a 2007 year-end bonus of \$67.9 million.

67. Lehman Brothers, "Proxy Statement for Year-end 2007," p. 28; JP Morgan Chase, "2007 Proxy Statement," p. 16.

68. New York State Office of the State Comptroller, "New York City Securities Industry Bonus Pool," February 23, 2010. The bonus pool is for securities industry (NAICS 523) employees who work in New York City.

69. "Banks Set for Record Pay, Top Firms on Pace to Award \$145 Billion for 2009, Up 18%, WSJ Study Finds," WSJ.com, January 14, 2010.

70. Sandy Weill, interview by FCIC, October 4, 2010.

71. Lord Adair Turner, interview by FCIC, November 30, 2010.

72. Ben S. Bernanke, testimony before the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 2, session 1: The Federal Reserve, September 2, 2010, transcript, p. 111.

73. Testimony of Armando Falcon Jr., former director Office of Federal Housing Enterprise Oversight, written testimony for the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 3, session 2: Office of Federal Housing Enterprise Oversight, April 9, 2010, pp. 8–10.

74. Sheila C. Bair, written testimony for the FCIC, First Public Hearing of the FCIC, day 2, panel 1: Current Investigations into the Financial Crisis—Federal Officials, January 14, 2010, p. 22.

75. Mary L. Schapiro, written testimony for the FCIC, First Public Hearing of the FCIC, day 2, panel 1: Current Investigations into the Financial Crisis—Federal Officials, January 14, 2010, p.18.

76. Bloomberg LLC, Financial Analysis Function, Public Filings for JPM, Citigroup, Bank of America, Goldman Sachs, and Lehman Brothers.

77. Fannie Mae, SEC filings 10-K and 10-Q; see the 2009 10-K, p. 70, Total Assets and Fannie Mae MBS held by Third Parties; Federal Housing Finance Agency, *Report to Congress, 2008* (2009), pp. 111, 128.

78. FCIC staff calculations.

79. SNL Financial Database and SEC public filings.

80. Calculated from proxy statements.

81. John Snow, interview by FCIC, October 7, 2010.

82. *Ibid.*

### Chapter 5

1. Gail Burks, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—State of Nevada, session 3: The Impact of the Financial Crisis on Nevada Real Estate, September 8, 2010, p. 3.
2. Tom C. Putnam, president, Putnam Housing Finance Consulting, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Sacramento, session 2: Mortgage Origination, Mortgage Fraud and Predatory Lending in the Sacramento Region, September 23, 2010, pp. 3–4.
3. Board of Governors of the Federal Reserve System, *Federal Reserve Statistical Release Z.1: Flow of Funds Accounts of the United States*, release date, December 9, 2010, Table L.1: Credit Market Debt Outstanding, and Table L.126: Issuers of Asset-Backed Securities (ABS)
4. Jim Callahan, interview by FCIC, October 18, 2010.
5. Lewis Ranieri, former vice chairman of Salomon Brothers, interview by FCIC, July 30, 2010.
6. Federal Deposit Insurance Corporation, “Managing the Crisis: The FDIC and RTC Experience” (August 1998), pp. 29, 6–7, 407–8, 38.
7. *Ibid.*, 417.
8. *Ibid.*, pp. 9, 32, 36, 48
9. The figures throughout this discussion of CMLTI 2006-NC2 are FCIC staff calculations, based on analysis of loan-level data from Blackbox Inc. and Standard & Poor’s; Moody’s PDS database; Moody’s CDO EMS database; and Citigroup, Fannie Mae Term Sheet, CMLTI 2006-NC2, September 7, 2006, pp. 1, 3. See also Brad S. Karp, counsel for Citigroup, letter to FCIC, November 4, 2010, p. 1, pp. 2–3. All ratings of its tranches are as given by Standard & Poor’s.
10. Technically, this deal had two unrated tranches below the equity tranche, also held by Citigroup and the hedge fund.
11. Fed Chairman Ben S. Bernanke, “The Community Reinvestment Act: Its Evolution and New Challenges,” speech at the Community Affairs Research Conference, Washington, D.C., March 30, 2007.
12. *Ibid.*
13. See Glenn Canner and Wayne Passmore, “The Community Reinvestment Act and the Profitability of Mortgage-Oriented Banks,” Working Paper, Federal Reserve Board, March 3, 1997. Under the Community Reinvestment Act, low- and moderate-income borrowers have income that is at most 80% of area median income.
14. Fed Chairman Alan Greenspan, “Economic Development in Low- and Moderate-Income Communities,” speech at Community Forum on Community Reinvestment and Access to Credit: California’s Challenge, in Los Angeles, January 12, 1998.
15. John Dugan, interview by FCIC, March 12, 2010.
16. Lawrence B. Lindsey, interview by FCIC, September 20, 2010.
17. Souphala Chomsisengphet and Anthony Pennington-Cross, “The Evolution of the Subprime Mortgage Market,” *Federal Reserve Bank of St. Louis Review* 88, no. 1 (January/February 2006): 40
18. Southern Pacific Funding Corp, Form 8-K, September 14, 1998
19. The top 10 list is as of 1996, according to FCIC staff calculations using data from the following sources: Inside Mortgage Finance, *The 2009 Mortgage Market Statistical Annual*, vol. 1, *The Primary Market* (Bethesda, Md.: Inside Mortgage Finance Publications, 2009), p. 214, “Top 25 B&C Lenders in 1996”; Thomas E. Foley, “Alternative Financial Ratios for the Effects of Securitization: Tools for Analysis,” Moody’s Investor Services, September 19, 1997, p. 5; and Moody’s Investor Service, “Subprime Home Equity Industry Outlook—The Party’s Over,” Moody’s Global Credit Research, October 1998.
20. “FDIC Announces Receivership of First National Bank of Keystone, Keystone, West Virginia,” Federal Deposit Insurance Corporation and Office of the Comptroller of the Currency joint press release, September 1, 1999.
21. FCIC staff calculations using data from *Inside MBS & ABS*.
22. See Marc Savitt, interview by FCIC, November 17, 2010.
23. Henry Cisneros, interview by FCIC, October 13, 2010.
24. Glenn Loney, interview by FCIC, April 1, 2010.
25. Senate Committee on Banking, Housing, and Urban Affairs, *The Community Development, Credit Enhancement, and Regulatory Improvement Act of 1993*, 103rd Cong., 1st sess., October 28, 1993, S. Rep. 103–169, p. 18.
26. *Ibid.*, p. 19.

27. 15 U.S.C. § 1639(h) 2006.

28. Loans were subject to HOEPA only if they hit the interest rate trigger or fee trigger: i.e., if the annual percentage rate for the loan was more than 10 percentage points above the yield on Treasury securities having a comparable maturity or if the total charges paid by the borrower at or before closing exceeded \$400 or 8% of the loan amount, whichever was greater. See Senate Committee on Banking, Housing, and Urban Affairs, S. Rep. 103-169, p. 54.

29. *Ibid.*, p. 24.

30. Board of Governors of the Federal Reserve System and Department of Housing and Urban Development, "Joint Report Concerning Reform to the Truth in Lending Act and the Real Estate Settlement Procedures Act" (July 1998), p. 56.

31. Griffith L. Garwood, director, Division of Consumer and Community Affairs, Board of Governors of the Federal Reserve System, "To the Officers and Managers in Charge of Consumer Affairs Examination and Consumer Complaint Programs," Consumer Affairs Letter CA 98-1, January 20, 1998

32. GAO, "Large Bank Mergers: Fair Lending Review Could Be Enhanced with Better Coordination," GAO/GGD-00-16 (Report to the Honorable Maxine Waters and the Honorable Bernard Sanders, House of Representatives), November 1999, p. 20.

33. Fed and HUD, "Joint Report," pp. I-XXVII.

34. Griffith L. Garwood, director, Division of Consumer and Community Affairs, Board of Governors of the Federal Reserve System, memorandum to the Committee on Consumer and Community Affairs, "Memorandum concerning the Board's Report to the Congress on the Truth in Lending and Real Estate Settlement Procedures Acts," April 8, 1998, p. 42.

35. Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, Office of the Comptroller of the Currency, and Office of Thrift Supervision, "Interagency Guidance on Subprime Lending" (March 1, 1999), p. 1

36. *Ibid.*, pp. 1-7; quotation, p. 5.

37. U.S. Department of the Treasury and U.S. Department of Housing and Urban Development, "Curbing Predatory Home Lending" (June 1, 2000), pp. 13-14, 1-2, 81 (quotations, 2, 1-2).

38. Gail Burks, president and chief executive officer, Nevada Fair Housing Center, Inc., testimony before the FCIC, Hearing on the Impact of the Financial Crisis—State of Nevada, session 3: The Impact of the Financial Crisis on Nevada Real Estate, September 8, 2010, transcript, p. 242-43. See also Kevin Stein, associate director, California Reinvestment Coalition, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Sacramento, session 2: Mortgage Origination, Mortgage Fraud and Predatory Lending in the Sacramento Region, September 23, 2010, pp. 8-9. See also his testimony at the same hearing, transcript, pp. 73-74. See Diane E. Thompson, of counsel, National Consumer Law Center, Inc., and Margot F. Saunders, of counsel, National Consumer Law Center, Inc., interview by FCIC, September 10, 2010.

39. Diane E. Thompson and Margot F. Saunders, both of counsel, National Consumer Law Center, interview by FCIC, September 10, 2010.

40. Gary Gensler, interview by FCIC, May 14, 2010.

41. Sheila Bair, testimony before the FCIC, First Public Hearing of the FCIC, day 2, panel 1: Current Investigations into the Financial Crisis—Federal Officials, January 14, 2010, transcript, p. 97.

42. Sheila Bair, interview by FCIC, March 29, 2010.

43. Sandra F. Braunstein, interview by FCIC, April 1, 2010, pp. 31-34.

44. Bair, interview.

45. Treasury and HUD, "Curbing Predatory Home Lending," p. 31.

## Chapter 6

1. Figures represented the compound average growth rate and FCIC staff calculations from CoreLogic National Home Price Index, Single-Family Combined (SCF); CoreLogic Loan Performance HPI August 2010.

2. Inside Mortgage Finance, *The 2009 Mortgage Market Statistical Annual*, vol. 1, *The Primary Market* (Bethesda, Md.: Inside Mortgage Finance, 2009), p. 4, "Mortgage Originations by Product."

3. Federal Reserve Board press release, May 27, 2004.



4. Fed Governor Ben S. Bernanke, “The Great Moderation,” remarks at the meetings of the Eastern Economic Association, Washington, D.C., February 20, 2004. See also Olivier Blanchard and John Simon, “The Long and Large Decline in U.S. Output Volatility,” *Brookings Papers on Economic Activity*, no. 1 (2001): 135–64.

5. Fed Governor Ben S. Bernanke, “Deflation: Making Sure ‘It’ Doesn’t Happen Here,” remarks before the National Economists Club, Washington, D.C., November 21, 2002.

6. FCIC staff calculations from Board of Governors of the Federal Reserve System, H.15 Selected Interest Rate release, 3-month AA Nonfinancial Commercial Paper Rate, WCPN3M (weekly, ending Friday); U.S. Department of Treasury, Daily Treasury Yield Curve Rates, 1990 to Present.

7. This example assumes that the homeowner is able to come up with a larger down payment to cover 20% of the higher-priced home. Here, the difference would be about \$13,000.

8. Federal Housing Finance Agency, “Data on the Risk Characteristics and Performance of Single-Family Mortgages Originated from 2001 through 2008 and Financed in the Secondary Market” (September 13, 2010), Table 2a: Share of Single-Family Mortgages Originated from 2001 through 2008 and Acquired by the Enterprises or Finances with Private-Label MBS by Loan-to-Value Ratio and Borrower FICO Score at Origination, Adjustable-Rate Mortgages, p. 22. Prime borrowers are defined as those whose mortgages are financed by the government-sponsored enterprises.

9. Yuliya Demyanyk and Otto Van Hemert, “Understanding the Subprime Mortgage Crisis” (December 5, 2008), table 1: Loan Characteristics at Origination for Different Vintages, p. 7.

10. FCIC staff calculations from CoreLogic/First American, Home Price Index for Single-Family Combined State HPI data, last updated August 2010, and CoreLogic State Home Price Index, provided to the FCIC by CoreLogic. Staff calculations of all annual growth rates are compound annual growth rates from January to January.

11. U.S. Census Bureau, “Housing Vacancies and Homeownership, CPS/HVS,” Table 14: Homeownership Rates for the US 1965 to Present.

12. Brian K. Bucks, Arthur B. Kennickell, and Kevin B. Moore, “Recent Changes in US Family Finances: Evidence from the 2001 and 2004 Survey of Consumer Finances,” *Federal Reserve Bulletin* (2006): Tables 8A and 8B, pp. A20–A23, A8.

13. Congressional Budget Office, “Housing Wealth and Consumer Spending,” Background Paper, January 2007, p. 15.

14. Mortgages may have been refinanced more than once in that year.

15. FCIC staff calculations with updated data provided by Alan Greenspan and James Kennedy, whose data originally appeared in “Sources and Uses of Equity Extracted from Homes,” Finance and Economics Discussion Series, Federal Reserve Board, 2007-20 (March 2007).

16. CBO, “Housing Wealth and Consumer Spending,” p. 2.

17. Fed Chairman Alan Greenspan, “The Economic Outlook,” prepared testimony before the Joint Economic Committee, 107th Cong., 2nd sess., November 13, 2002.

18. Fed Chairman Alan Greenspan, “Federal Reserve Board’s Semiannual Monetary Policy Report to the Congress,” prepared testimony before the House Committee on Financial Services, 108th Cong., 2nd sess., February 12, 2004.

19. FCIC staff calculations from *2009 Mortgage Market Statistical Annual*, 1:4, “Mortgage Originations by Product” (total subprime volume); 2:13, “Non-Agency MBS Issuance by Type” (subprime PLS).

20. *Ibid.*, 1:3, “Mortgage Origination Indicators”; 2:20, 2:27, “Mortgage Originations by Product”

21. Bart McDade, interview by FCIC, April 16, 2010.

22. Presentation to the Lehman Board of Directors, March 20, 2007. Lehman had also acquired three international lenders during this time period.

23. New Century, 1999 10-K, March 30, 2000, p. 2.

24. Final Report of Michael J. Missal, Bankruptcy Court Examiner, in RE: New Century TRS Holdings, Chapter 11, Case No. 07-10416 (KJC), (Bankr. D.Del.), February 29, 2008, p 42.

25. New Century, 2000 10-K, April 2, 2001, p. 15; New Century, 2003 10-K, March 15, 2004, p. 13. Rankings from *2009 Mortgage Market Statistical Annual*, 1:220, 223.

26. Aseem Mital and Angelo Mozilo, quoted in Erick Bergquist, “Under Scrutiny, Ameriquest Details Procedures,” *American Banker* 170, no. 125 (June 30, 2005): 1. Volume and rankings from *2009 Mortgage Market Statistical Annual*, 1:220, 223.



27. Lewis Ranieri, interview by FCIC, July 30, 2010.
28. James M. Lacko and Janis K. Pappalardo, "The Effect of Mortgage Broker Compensation Disclosures on Consumers and Competition: A Controlled Experiment," Federal Trade Commission Bureau of Economics Staff Report (February 2004), p. 1.
29. Jay Jeffries, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—State of Nevada, session 3: The Impact of the Financial Crisis on Nevada Real Estate, September 8, 2010, transcript, p. 177.
30. Brian Bucks and Karen Pence, "Do Borrowers Know Their Mortgage Terms?" *Journal of Urban Economics* 64 (2008): 223.
31. Michael Calhoun and Julia Gordon, interview by FCIC, September 16, 2010.
32. Annamaria Lusardi, "Americans' Financial Capability," report prepared for the FCIC, February 26, 2010, p. 3.
33. FCIC staff estimates based on analysis of Blackbox, S&P, and IP Recovery, provided by Antje Berndt, Burton Hollifield, and Patrik Sandas, in their paper, "The Role of Mortgage Brokers in the Subprime Crisis," April 2010.
34. William C. Appgar and Allen J. Fishbein, "The Changing Industrial Organization of Housing Finance and the Changing Role of Community-Based Organizations," working paper (Joint Center for Housing Studies, Harvard University, May 2004), p. 9.
35. Herb Sandler, interview by FCIC, September 22, 2010.
36. Wholesale Access, "Mortgage Brokers 2006" (August 2007), pp. 35, 37.
37. Jamie Dimon, testimony before the FCIC, First Public Hearing of the FCIC, panel 1: Financial Institution Representatives, January 13, 2010, transcript, p. 13.
38. October Research Corporation, executive summary of the *2007 National Appraisal Survey*, p. 4.
39. Dennis J. Black, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Miami, session 2: Uncovering Mortgage Fraud in Miami, September 21, 2010, p. 8.
40. Karen J. Mann, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Sacramento, session 2: Mortgage Origination, Mortgage Fraud and Predatory Lending in the Sacramento Region, September 23, 2010, p. 2.
41. Gary Crabtree, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Greater Bakersfield, session 4: Local Housing Market, September 7, 2010, transcript, p. 172.
42. Complaint, *People of the State of New York v. First American Corporation and First American eAppraiseIT* (N.Y. Sup. Ct. November 1, 2007), pp. 3, 7, 8.
43. Martin Eakes, quoted in Richard A. Oppel Jr. and Patrick McGeehan, "Along with a Lender, Is Citigroup Buying Trouble?" *New York Times*, October 22, 2000.
44. Pam Flaherty, quoted in Erick Bergquist, "Judging Citi, a Year Later: Subprime Reform 'on Track'; Critics Unsatisfied," *American Banker*, September 10, 2001.
45. "Citigroup Settles FTC Charges against the Associates Record-Setting \$215 Million for Subprime Lending Victims," Federal Trade Commission press release, September 19, 2002.
46. Mark Olson, interview by FCIC, October 4, 2010.
47. Timothy O'Brien, "Fed Assess Citigroup Unit \$70 Million in Loan Abuse," *The New York Times*, May 28, 2004.
48. Federal Reserve Board internal staff document, "The Problem of Predatory Lending," December 5, 2000, pp. 10–13.
49. Federal Reserve Board, Morning Session of Public Hearing on Home Equity Lending, July 27, 2000, opening remarks by Governor Gramlich, p. 9.
50. Scott Alvarez, interview by FCIC, March 23, 2010.
51. Alan Greenspan, written testimony for the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day one, session 1: The Federal Reserve, April 7, 2010, p. 13.
52. Alan Greenspan, quoted in David Faber, *And Then the Roof Caved In: How Wall Street's Greed and Stupidity Brought Capitalism to Its Knees* (Hoboken, N.J.: Wiley, 2009), pp. 53–54.
53. "Truth in Lending," *Federal Register* 66, no. 245 (December 20, 2001): 65612 (quotation), 65608.

54. Robert B. Avery, Glenn B. Canner, and Robert E. Cook, "New Information Reported under HMDA and Its Application in Fair Lending Enforcement," *Federal Reserve Bulletin* 91 (Summer 2005): 372.
55. Alan Greenspan, interview by FCIC, March 31, 2010.
56. Sheila Bair, testimony before the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 2, session 2: Federal Deposit Insurance Corporation, September 2, 2010, transcript, p. 191.
57. Dolores Smith and Glenn Loney, memorandum to Governor Edward Gramlich, "Compliance Inspections of Nonbank Subsidiaries of Bank Holding Companies," August 31, 2000.
58. GAO, "Consumer Protection: Federal and State Agencies Face Challenges in Combating Predatory Lending," GAO 04-280 (Report to the Chairman and Ranking Minority Member, Special Committee on Aging, U.S. Senate), January 2004, pp. 52-53.
59. Sandra Braunstein, interview by FCIC, April 1, 2010. Transcript pp. 32-33.
60. Greenspan, interview.
61. *Ibid.*
62. Edward M. Gramlich, "Booms and Busts: The Case of Subprime Mortgages," *Federal Reserve Bank of Kansas City Economic Review* (2007): 109.
63. Edward Gramlich, quoted in Greg Ip, "Did Greenspan Add to Subprime Woes? Gramlich Says Ex-Colleague Blocked Crackdown On Predatory Lenders Despite Growing Concerns," *Wall Street Journal*, June 9, 2007. See also Edmund L. Andrews, "Fed Shrugged as Subprime Crisis Spread," *New York Times*, December 18, 2007.
64. Patricia McCoy and Margot Saunders, quoted in Binyamin Appelbaum, "Fed Held Back as Evidence Mounted on Subprime Loan Abuses," *Washington Post*, September 27, 2009.
65. GAO, "Large Bank Mergers: Fair Lending Review Could be Enhanced with Better Coordination," GAO/GDD-00-16 (Report to the Honorable Maxine Waters and Honorable Bernard Sanders, House of Representatives), November 1999; GAO, "Consumer Protection: Federal and State Agencies Face Challenges in Combating Predatory Lending."
66. "Federal and State Agencies Announce Pilot Project to Improve Supervision of Subprime Mortgage Lenders," Joint press release (Fed Reserve Board, OTC, FTC, Conference of State Bank Supervisors, American Association of Residential Mortgage Regulators), July 17, 2007.
67. "Truth in Lending," pp. 44522-23. "Higher-priced mortgage loans" are defined in the 2008 regulations to include mortgage loans whose annual percentage rate exceeds the "average prime offer rates for a comparable transaction" (as published by the Fed) by at least 1.5% for first-lien loans or 3.5% for subordinate-lien loans.
68. Alvarez, interview.
69. Raphael W. Bostic, Kathleen C. Engel, Patricia A. McCoy, Anthony Pennington-Cross, and Susan M. Wachter, "State and Local Anti-Predatory Lending Laws: The Effect of Legal Enforcement Mechanisms," *Journal of Economics and Business* 60 (2008): 47-66.
70. "Lending and Investment," *Federal Register* 61, no. 190 (September 30, 1996): 50965.
71. Joseph A. Smith, "Mortgage Market Turmoil: Causes and Consequences," testimony before the Senate Committee on Banking, Housing, and Urban Affairs, 110th Cong., 1st sess., March 22, 2007, p. 33 (Exhibit B), using data from the Mortgage Asset Research Institute.
72. Lisa Madigan, written testimony for the FCIC, First Public Hearing of the FCIC, day 2, panel 2: Current Investigations into the Financial Crisis—State and Local Officials, January 14, 2010, p.12.
73. Commitments compiled at National Community Reinvestment Coalition, "CRA Commitments" (2007).
74. Josh Silver, NCRC, interview by FCIC, June 16, 2010.
75. Data references based on Reginald Brown, counsel for Bank of America, letter to FCIC, June 16, 2010, p. 2; Jessica Carey, counsel for JPMorgan Chase, letter to FCIC, December 16, 2010; Brad Karp, counsel for Citigroup, letter to FCIC, March 18, 2010, in response to FCIC request; Wells Fargo public commitments 1990-2010, data provided by Wells Fargo to the FCIC.
76. Karp, letter to FCIC, March 18, 2010, in response to FCIC request.
77. Carey, letter to FCIC, December 16, 2010, p. 9; Brad Karp, counsel for JP Morgan, letter to FCIC, May 26, 2010, p. 10.

78. FCIC calculation based on Federal Housing Finance Agency, “Data on the Risk Characteristics and Performance of Single-Family Mortgages Originated in 2001–2008 and Financed in the Secondary Market” (August 2010), Table 1-C; this report covers all loans purchased or securitized by the GSEs or in private-label securitizations. Delinquency data provided by Wells Fargo covered 81% of loans.

79. “Orders Issued Under the Bank Holding Company Act,” *Federal Reserve Bulletin* 75, no. 4 (April 1989): 304.

80. “Statement of the Federal Financial Supervisory Agencies Regarding the Community Reinvestment Act,” *Federal Register* 54 (April 5, 1989): 13742. This remains the interagency policy. “Community Reinvestment Act: Interagency Questions and Answers Regarding Community Reinvestment; Notice,” *Federal Register* 75 (March 11, 2010): 11666.

81. Glenn Loney, interview by FCIC, April 1, 2010.

82. “Community Reinvestment Act Regulations and Home Mortgage Disclosure; Final Rules,” *Federal Register* 60, no. 86 (May 4, 1995): 22155–223.

83. Division of Consumer and Community Affairs, memorandum to Board of Governors, August 10, 1998.

84. Federal Reserve Board press release, “Order Approving the Merger of Bank Holding Companies,” August 17, 1998, pp. 63–64.

85. Lloyd Brown, interview by FCIC, February 5, 2010.

86. Andrew Plepler, interview by FCIC, July 14, 2010.

87. Assuming 75% AAA tranche (\$1.20), 10% AA tranche (\$0.20), 8% A tranche (\$0.30), 5% BBB tranche (\$0.40), and 2% equity tranche (\$2.00). See Goldman Sachs, “Effective Regulation: Part 1, Avoiding Another Meltdown,” March 2009, p. 22.

88. David Jones, interview by FCIC, October 19, 2010. See David Jones, “Emerging Problems with the Basel Capital Accord: Regulatory Capital Arbitrage and Related Issues,” *Journal of Banking and Finance* 24, nos. 1–2 (January 2000): 35–58.

89. Henry Paulson, testimony before the FCIC, Hearing on the Shadow Banking System, day 2, session 1: Perspective on the Shadow Banking System, May 6, 2010, transcript, p. 34.

90. Jones, interview.

## Chapter 7

1. For example, an Alt-A loan may have no or limited documentation of the borrower’s income, may have a high loan-to-value ratio (LTV), or may be for an investor-owned property.

2. Inside Mortgage Finance, *The 2009 Mortgage Market Statistical Annual*, vol. 2, *The Secondary Market* (Bethesda, MD: Inside Mortgage Finance, 2009), p. 9, “Mortgage & Asset Securities Issuance” (showing Wall St. securitizing a third more than Fannie and Freddie); p. 13, “Non-Agency MBS Issuance by Type.” FCIC staff calculations from 2004 to 2006 (for growth in private label MBS).

3. Charles O. Prince, interview by FCIC, March 17, 2010.

4. John Taylor, interview by FCIC, September 23, 2010.

5. William A. Fleckenstein and Frederick Sheeham, *Greenspan’s Bubbles: The Age of Ignorance at the Federal Reserve* (New York: McGraw-Hill, 2008), p. 181.

6. Alan Greenspan, “The Fed Didn’t Cause the Housing Bubble,” *Wall Street Journal*, March 11, 2009. See also Ben Bernanke, “Monetary Policy and the Housing Bubble,” speech at the Annual Meeting of the American Economic Association, Atlanta, Georgia, January 3, 2010.

7. Alan Greenspan, testimony before the Senate Committee on Banking, Housing, and Urban Affairs, 109th Cong., 1st sess., February 16, 2005.

8. Fed Chairman Ben S. Bernanke, “The Global Saving Glut and the U.S. Current Account Deficit,” remarks at the Sandridge Lecture, Virginia Association of Economics, Richmond, Virginia, March 10, 2005.

9. Frederic Mishkin, interview by FCIC, October 1, 2010.

10. Pierre-Olivier Gourinchas, written testimony for the FCIC, Forum to Explore the Causes of the Financial Crisis, day 1, session 2: Macroeconomic Factors and U.S. Monetary Policy, February 26, 2010, pp. 25–26.

11. Paul Krugman, interview by FCIC, October 6, 2010.

12. Ellen Schloemer, Wei Li, Keith Ernst, and Kathleen Keest, "Losing Ground: Foreclosures in the Subprime Market and Their Cost to Homeowners," Center for Responsible Lending, December 2006, p. 22.
13. *2009 Mortgage Market Statistical Annual*, vol. 1, *The Primary Market*, p. 4, "Mortgage Originations by Product."
14. Christopher Mayer, Karen Pence, and Shane M. Sherlund, "The Rise in Mortgage Defaults," *Journal of Economic Perspectives* 23, no. 1 (Winter 2009): Table 2, Attributes for Mortgages in Subprime and Alt-A Pools, p. 31.
15. *2009 Mortgage Market Statistical Annual*, 2:13, "Non-Agency MBS Issuance by Type."
16. *2009 Mortgage Market Statistical Annual*, 1:6, "Alternative Mortgage Originations"; previous data extrapolated in FCIC estimates from Golden West, Form 10-K for fiscal year 2005, and Federal Reserve, "Residential Mortgage Lenders Peer Group Survey: Analysis and Implications for First Lien Guidance," November 30, 2005.
17. Inside Mortgage Finance.
18. Countrywide, 2005 Form 10-K, p. 39; 2007 Form 10-K, p. 47 (showing the growth in Countrywide's originations).
19. Angelo Mozilo, email to Sambol and Kurland re: Sub-prime Seconds. See also Angelo Mozilo, email to Sambol, Bartlett, and Sieracki, re: "Reducing Risk, Reducing Cost," May 18, 2006; Angelo Mozilo, interview by FCIC, September 24, 2010.
20. David Sambol, interview by FCIC, September 27, 2010.
21. See Countrywide, Investor Conference Call, January 27, 2004, transcript, p. 5. See also Jody Shenn, "Countrywide Adding Staff to Boost Purchase Share," *American Banker*, January 28, 2004.
22. Patricia Lindsay, written testimony for the FCIC, hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 1, sess. 2: Subprime Origination and Securitization, April 7, 2010, p. 3.
23. Andrew Davidson, interview by FCIC, October 29, 2010.
24. *Ibid.*
25. David Berenbaum, testimony before Senate Committee on Banking, Subcommittee on Housing, Transportation and Community Development, 110th Cong., 1st sess., June 26, 2007.
26. Email and data attachment from former Golden West employee to FCIC, subject: "re: Golden West Estimated Volume of Adjustable Rate Mortgage Originations," December 6, 2010.
27. Herbert Sandler, interview by FCIC, September 22, 2010.
28. Washington Mutual, "Option ARM Focus Groups—Phase II," September 17, 2003; Washington Mutual, "Option ARM Focus Groups—Phase I," August 14, 2003, Exhibits 35 and 36 in Senate Permanent Subcommittee on Investigations, exhibits, *Wall Street and the Financial Crisis: The Role of High Risk Home Loans*, 111th Cong., 2nd sess., April 13, 2010 (hereafter cited as PSI Documents), PDF pp. 330–51, available at [http://hsgac.senate.gov/public/\\_files/Financial\\_Crisis/041310Exhibits.pdf](http://hsgac.senate.gov/public/_files/Financial_Crisis/041310Exhibits.pdf).
29. PSI Documents, Exhibits 35 and 36 pp. 330–51.
30. *Ibid.*, pp. 330–51, 334.
31. *Ibid.*, p. 345.
32. *Ibid.*, p. 346.
33. Washington Mutual, "Option ARM Credit Risk," August 2006, PSI Document Exhibit 37, p. 366.
34. PSI Documents Exhibit 37, p. 366, showing average FICO score of 698; p. 356; comparing conforming and jumbo originations.
35. *Ibid.*, p. 357.
36. Document listing Countrywide originations by quarter from 2003 to 2007, provided by Bank of America.
37. Countrywide October 2003 Loan Program Guide (depicting a maximum CLTV of 80 and minimum FICO of 680) and July 2004 Loan Program Guide (showing 90% 620 FICO).
38. Countrywide Loan Program Guide, dated March 7, 2005.
39. Federal Reserve, "Residential Mortgage Lenders Peer Group Survey: Analysis and Implications for First Lien Guidance," November 30, 2005, pp. 6, 8.
40. Angelo Mozilo, email to Carlos Garcia (cc: Stan Kurland), Subject: "Bank Assets," August 1, 2005.

41. Angelo Mozilo, email to Carlos Garcia (cc: Kurland), subject: "re: Fw: Bank Assets," August 2, 2005.
42. Countrywide, 2005 Form 10-K, p. 57; 2007 Form 10-K, p. F-45.
43. See Washington Mutual, 2006 Form 10-K, p. 53.
44. John Stumpf, interview by FCIC, September 23, 2010.
45. Countrywide, 2007 Form 10-K, p. F-45; 2005 Form 10-K, p. 57.
46. Washington Mutual, 2007 Form 10-K, p. 57; 2005 Form 10-K, p. 55.
47. Kevin Stein, testimony before the FCIC, Sacramento Hearing on the Impact of the Financial Crisis—San Francisco, day 1, session 2: Mortgage Origination, Mortgage Fraud and Predatory Lending in the Sacramento Region, September 23, 2010, transcript, p. 72.
48. Mona Tawatao, in *ibid.*, p. 228.
49. Real Estate Lending Standards, *Federal Register* 57 (December 31, 1992): 62890.
50. *Ibid.*
51. Office of the Comptroller of the Currency, Board of Governors of the Federal Deposit Insurance Corporation, Office of Thrift Supervision, "Real Estate Lending Standards: Final Rule," SR 93-1, January 11, 1993.
52. Office of the Comptroller of the Currency, Board of Governors of the Federal Deposit Insurance Corporation, Office of Thrift Supervision, "Interagency Guidance on High LTV Residential Real Estate Lending," October 8, 1999.
53. Final Report of Michael J. Missal, Bankruptcy Court Examiner, In RE: New Century TRS Holdings, Chapter 11, Case No. 07-10416 (KJC), (Bankr. D.Del.), February 29, 2008, pp. 128, 149, 128.
54. Yuliya Demyanyk and Otto Van Hemert, "Understanding the Subprime Mortgage Crisis," *Review of Financial Studies*, May 2009.
55. Sandler, interview.
56. CoreLogic loan performance data for subprime and Alt-A loans, and CoreLogic total outstanding loans servicer data provided to the FCIC.
57. Christopher Mayer, Karen Pence, and Shane M. Sherlund, "The Rise in Mortgage Defaults," *Journal of Economic Perspectives* 23, no. 1 (Winter 2009): 32.
58. William Black, testimony for the FCIC, Miami Hearing on the Impact of the Financial Crisis, day 1, session 1: Overview of Mortgage Fraud, September 21, 2010, p. 27.
59. Richard Bowen, interview by FCIC, February 27, 2010.
60. Jamie Dimon, testimony before the FCIC, January 13, 2010, p. 60.
61. This particular deal would be described as an excess-spread over-collateralized-based credit enhancement structure; see Gary Gorton, "The Panic of 2007," paper presented at the Federal Reserve Bank of Kansas City's Jackson Hole Conference, August 2008, p. 23.
62. FCIC staff estimates based on analysis of data from BlackBox, S&P, and Bloomberg. The prospective loan pool for this deal originally contained 4,507 mortgages. Eight of these had been dropped from the pool by the time the bonds were issued. Therefore, these estimates may differ slightly from those reported in the deal prospectus because these estimates are based on a pool of 4,499 loans.
63. *Ibid.*
64. *Federal Register* 69 (January 7, 2004): 1904. The rules were issued in proposed form at *Federal Register* 68 (August 5, 2003): 46119.
65. See OTS Opinion re California Minimum Payment Statute, October 1, 2002, p. 6.
66. Comptroller of the Currency John Hawke, remarks before Women in Housing and Finance, Washington, D.C., February 12, 2002, attached to OCC News Release 2002-10, p. 2.
67. John Hawke, quoted in Jess Bravin and Paul Beckett, "Friendly Watchdog: Federal Regulator Often Helps Banks Fighting Consumers," *Wall Street Journal*, January 28, 2002.
68. Oren Bar-Gill and Elizabeth Warren, "Making Credit Safer," *University of Pennsylvania Law Review* 157 (2008): 182-83, 192-94.
69. See *Watters v. Wachovia Bank NA*, 550 U.S. 1 (2007).
70. John Dugan, testimony before the FCIC, Public Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 2, session 2: Office of the Comptroller of the Currency, April 8, 2010, transcript, p. 150.
71. Lisa Madigan, testimony before the FCIC, First Public Hearing of the FCIC, day 2, panel 2: Investigations into the Financial Crisis—State and Local Officials, January 14, 2010, transcript, p. 104.

72. John D. Hawke Jr., written testimony for the FCIC, Public Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 2, session 2: Office of the Comptroller of the Currency, April 8, 2010, p. 6.

73. Citigroup Warehouse Lines of Credit with Mortgage Originators, in *Global Securitized Markets, 2000–2010* (revised), produced by Citigroup; staff calculations.

74. Charles O. Prince, interview by FCIC, March 17, 2010.

75. Moody's Special Report, "The ABCP Market in the Third Quarter of 1998," February 2, 1999.

76. Moody's 2007 Review and 2008 Outlook: US Asset-backed Commercial Paper, February 27, 2008.

77. Moody's ABCP Reviews of Park Granada and Park Sienna.

78. Moody's ABCP Program Review: Park Granada, July 16, 2007.

79. Letters from the American Securitization Forum (November 17, 2003) and State St. Bank (November 14, 2003) to the Office of Thrift Supervision.

80. Darryll Hendricks, interview by FCIC, August 6, 2010.

81. Citi August 29, 2006, Loan Sale.

82. Correspondence between Citi and New Century provided to FCIC. FCIC staff estimates from prospectus and Citigroup production dated November 4, 2010. Citi August 29, 2006, Loan Sale.

83. Fannie Mae Term Sheet.

84. For the more than 20 institutional investors around the world, see Citigroup letter to the FCIC re Senior Investors, October 14, 2010. The \$582 million figure is based on FCIC staff estimates that, in turn, were based on analysis of Moody's PDS database.

85. See Brad S. Karp, counsel for Citigroup, letter to FCIC, about senior investors, October 14, 2010, p. 2. See also Eric S. Goldstein, counsel for JPMorgan Chase & Co., letter to FCIC, November 16, 2010.

86. Citigroup letter to the FCIC, November 4, 2010.

87. See, e.g., Simon Kennedy, "BNP Suspends Funds Amid Credit-Market Turmoil," August 9, 2007. ([www.marketwatch.com/story/bnp-suspends-fund-valuations-amid-credit-market-turmoil](http://www.marketwatch.com/story/bnp-suspends-fund-valuations-amid-credit-market-turmoil)).

88. See Brad S. Karp, letter to FCIC, about mezzanine investors, November 4, 2010, p. 1. The equity tranches were not offered for public sale but were retained by Citigroup.

89. FCIC staff estimates from prospectus and Citigroup production dated November 4, 2010.

90. Patricia Lindsay, interview by FCIC, March 24, 2010.

91. PSI Documents, Exhibit 59a: "Long Beach Mortgage Production, Incentive Plan 2004," and Exhibit 60a (quoting page 2 of WaMu Home Loans Product Strategy PowerPoint presentation).

92. John M. Quigley, "Compensation and Incentives in the Mortgage Business," *Economists' Voices* (The Berkeley Electronic Press, October 2008), p. 2.

93. Barclays Capital, Bear Stearns, BNP Paribas, Citigroup, Deutsche Bank, Goldman Sachs, HSBC, JPMorgan, Lehman Brothers, Morgan Stanley, and UBS.

94. Figures are average top-tier pay worldwide in mortgages and MBS sales and trading. See Options Group, "2005 Global Financial Market Overview & Compensation Report" (October 2005), pp. 42, 52; Options Group, "2006 Global Financial Market Overview & Compensation Report" (November 2006), pp. 59, 69; and Options Group, "2007 Global Financial Market Overview & Compensation Report" (November 2007), pp. 73, 82.

95. See Merrill Lynch, 2007 Proxy Statement, p. 46.

96. See FCIC staff analysis of Moody's Form 10-Ks for years 2005, 2006, and 2007.

97. See FCIC staff calculations based on Moody's Form 10-Ks for years 2003–07.

98. "Moody's Expands Moody's Mortgage Metrics to Include Subprime Residential Mortgages," September 6, 2006; FCIC staff estimate based on analysis of Moody's SFDRS and PDS databases.

99. The ratings from the three agencies measure slightly different credit risk characteristics. S&P and Fitch base their ratings on the probability that a borrower will default; Moody's bases its ratings on the *expected loss* to the investor. Despite such differences, investors and regulators tend to view the ratings as roughly equivalent. Ratings are divided into two categories: investment grade securities are rated BBB- to AAA, while securities rated below BBB- are considered speculative and are also referred to as junk (for S&P; similar levels for Moody's are Baa to triple-A).

100. Richard Cantor and Frank Packer, "The Credit Rating Industry," *FRBNY Quarterly Review* (Summer–Fall 1994): 6.



101. Andrew J. Donahue, director, Division of Investment Management, SEC, "Speech by SEC Staff: Opening Remarks before the Commission Open Meeting," Washington, DC, June 25, 2008. See also Lawrence J. White, "Markets: The Credit Rating Agencies," *Journal of Economic Perspectives* 24, no. 2 (Spring 2010): 214.
102. Lewis Ranieri, interview by FCIC, July 30, 2010.
103. Eric Kolchinsky, testimony before the FCIC, Hearing on the Credibility of Credit Ratings, the Investment Decisions Made Based on Those Ratings, and the Financial Crisis, session 1: The Ratings Process, June 2, 2010, transcript, pp. 19–20.
104. See 15 U.S.C. 78o-7(c)(2).
105. Jerome S. Fons, testimony before the House Committee on Oversight and Government Reform, 110th Cong., 2nd sess., October 22, 2008, p. 2.
106. Arnold Cattani, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Greater Bakersfield, session 2: Local Banking, transcript, p. 60.
107. Gary Witt, testimony before the FCIC, Hearing on the Credibility of Credit Ratings, the Investment Decisions Made Based on Those Ratings, and the Financial Crisis, session 1: The Ratings Process, June 2, 2010, transcript, p. 41.
108. Moody's Investors Service, "Introducing Moody's Mortgage Metrics: Subprime Just Became More Transparent," September 7, 2009.
109. David Teicher, Moody's Investors Service, interview by FCIC, May 4, 2010; "Moody's Mortgage Metrics: A Model Analysis of Residential Mortgage Pools," April 1, 2003.
110. Jay Siegel, interview by FCIC, May 26, 2010.
111. Teicher, interview.
112. Jay Siegel, testimony before the FCIC, Hearing on the Credibility of Credit Ratings, the Investment Decisions Made Based on Those Ratings, and the Financial Crisis, session 1: The Ratings Process, June 2, 2010, transcript, p. 29.
113. Roger Stein, interview by FCIC, May 26, 2010.
114. Moody's Investors Service, "Introducing Moody's Mortgage Metrics."
115. Stein, interview.
116. Jerome Fons, interview by FCIC, April 22, 2010.
117. Moody's Rating Committee Memorandum, August 29, 2006.
118. FCIC staff estimates based on analysis of Moody's PDS database.
119. Invoice from Moody's Investors Service to Susan Mills, Citigroup Global Markets Inc., October 12, 2006.
120. Standard & Poor's, Global New Issue Billing Form, Citigroup Mortgage Loan Trust 2006-NC2, September 28, 2006.
121. FCIC staff estimates based on analysis of Moody's SFDRS data as of April 2010.
122. Chris Cox, SEC chairman, prepared testimony before the Senate Banking Committee, 109th Cong., 2nd sess., June 15, 2006; "Freddie Mac, Four Former Executives Settle SEC Action Relating to Multi-Billion Dollar Accounting Fraud," SEC press release, September 27, 2007.
123. James Lockhart, director, FHFA, speech to American Securitization Forum in Las Vegas, New Mexico, February 9, 2009 (p. 2, slide 4 of presentation shows the chart).
124. OFHEO Special Examination Report, December 2003.
125. In 2006, OFHEO issued its final *Report of the Special Examination of Fannie Mae*. OFHEO said that management engaged in numerous acts of misconduct, involving well over a dozen different forms of accounting manipulation and violations of generally accepted accounting principles. As in the case of Freddie, OFHEO said Fannie's management sought to hit ambitious earnings-per-share targets that were linked to their own compensation.
126. Donald Bisenius, interview by FCIC, September 29, 2010.
127. *Mortgage Market Statistical Annual 2009*.
128. See Tables 5.1/5.2 in FHFA Conservatorship report for third-quarter 2010.
129. OFHEO Special Examination Report, September 2004, pp. 9–10.
130. *Ibid.*, pp. 2, 10.
131. OFHEO, "2005 Report to Congress," June 15, 2005, p. 15.



132. Alan Greenspan, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 1, session 1: The Federal Reserve, April 7, 2010, transcript, p. 13.

133. FHFA, "Mortgage Market Note: Goals of Fannie Mae and Freddie Mac in the Context of the Mortgage Market: 1996–2009," February 2010, p. 22; "FCIC calculations."

134. FHFA, *Report to Congress, 2008* (2009), pp. 116, 125.

135. BlackRock Solutions, "Fannie Mae's Strategy and Business Model, Supplementary Exhibits," December 2007.

136. Robert Levin, interview by FCIC, March 17, 2010.

137. Mark Winer, interview by FCIC, March 23, 2010.

138. John Weicher, former FHA commissioner, interview by FCIC, March 11, 2010.

139. Letter from Robert Levin to FCIC, June 17, 2010, p. 2.

### Chapter 8

1. Joe Donovan, Credit Suisse, quoted in Michael Gregory, "The 'What If's' in ABS CDOs," *Asset Securitization Report*, February 18, 2002.

2. FCIC staff calculations, using data from the U.S. Census, data in Moody's CDO PDS database, and data in Moody's CDO Enhanced Monitoring Service database. The FCIC selected CDOs with at least 10% of their collateral invested in mortgage-backed securities or with other characteristics that identified them as ABS CDOs.

3. Scott Eichel, quoted in Allison Pyburn, "CDO Machine? Managers, Mortgage Companies, Happy to Keep Fuel Coming," *Asset Securitization Report*, May 23, 2005.

4. Patrick Parkinson, interview by FCIC, March 30, 2010.

5. Jian Hu, "Assessing the Credit Risk of CDOs Backed by Structured Finance Securities: Rating Analysts' Challenges and Solutions," *Journal of Structured Finance* 13, no. 3 (2007): 46.

6. Wing Chau, interview by FCIC, November 11, 2010.

7. CDOs that bought relatively senior tranches of mortgage-backed securities were known as *high-grade*; those that bought the BBB-rated and other junior tranches were known as *mezzanine*.

8. Joe Donovan, quoted in Gregory, "The 'What If's' in ABS CDOs."

9. Laurie Goodman et al., *Subprime Mortgage Credit Derivatives* (Hoboken, NJ: John Wiley, 2008), p. 315.

10. Hu, "Assessing the Credit Risk of CDOs Backed by Structured Finance Securities," p. 47, Exhibit 5.

11. Issuance dropped in 2007 to \$194 billion and virtually disappeared in 2008. FCIC staff estimates based on data provided by Moody's CDO Enhanced Monitoring System (EMS).

12. FCIC staff estimates based on analysis of Moody's CDO EMS database.

13. Nestor Dominguez, interview by FCIC, September 28, 2010.

14. Michael Lamont, interview by FCIC, September 21, 2010.

15. Chris Ricciardi, interview by FCIC, September 15, 2010.

16. Lamont, interview.

17. FCIC staff calculations using data in FCIC CDO manager and underwriter survey.

18. Mark Adelson, interview by FCIC, October 22, 2010.

19. FCIC staff calculations. Our estimate assumes an annual management fee of 0.10% of the total value of the deal—that is, the lowest normally earned in the industry—applied to the mortgage-focused multisector CDOs in the FCIC database. It does not include other income, such as interest on equity tranches retained by the managers. CDO managers responding to the FCIC survey reported management fees ranging from as low as 0.10% to as high as 0.40%.

20. "Summary of Key Fee Provisions for Cash CDOs as of January 2000–2010," prepared by Moody's for the FCIC.

21. FCIC Hedge Fund Survey. See FCIC website for details.

22. FCIC staff estimates based on Moody's CDO Enhanced Monitoring Service.

23. Bloomberg LLC, Financial Analyst Function; Bear Stearns Companies Inc., Form 10-K, for the fiscal year ended November 30, 2006, filed February 13, 2007, Exhibit 13.

24. The Options Group, "2005 Global Financial Market Overview & Compensation Report," October 2005, p. 16.

25. Moody's, Kleros Real Estate CDO III, Ltd., CDO EMS Data, last updated May 27, 2008. The following discussion of CMLTI 2006-NC2 relies on FCIC staff estimates based on analysis of Moody's CDO EMS database.
26. Ricciardi, interview.
27. For example, Kleros III tranches were in Buckingham CDO, Buckingham CDO II, and Buckingham CDO III, all deals underwritten by Barclays.
28. Adelson, interview.
29. Chau, interview.
30. James Grant, "Up the Capital Structure" (December 15, 2006), in *Mr. Market Miscalculates: The Bubble Years and Beyond* (Mount Jackson, VA: Axios Press, 2008), 186.
31. UBS Global CDO Group, Presentation on Product Series (POPS), January 2007.
32. Dan Sparks, interview by FCIC, June 15, 2010.
33. Dominguez, interview.
34. The ratio of the book value of assets to equity ranged from 2.5 to 28.3 times for all SIVs; the average was 13.6 times. Moody's Investors Service, "Moody's Special Report: Moody's Update on Structured Investment Vehicles," January 16, 2008, p. 13.
35. Mark Klipsch, quoted in Colleen Marie O'Connor, "Drought of CDO Collateral Tops Concerns," *Asset Securitization Report*, October 18, 2004.
36. Bear Stearns Asset Management, Collateral Manager Presentation; Ralph Cioffi, interview by FCIC, October 19, 2010; Bear Stearns High-Grade Structured Credit Strategies Master Fund, Ltd., financial statements for the year ended December 31, 2006 (total assets were \$8,573,315,025); Bear Stearns High-Grade Structured Credit Strategies Enhanced Leverage Master Fund, Ltd., financial statements for the year ended December 31, 2006 (total assets were \$9,403,235,402).
37. James Cayne, written testimony for the FCIC, Hearing on the Shadow Banking System, day 1, session 2: Investment Banks and the Shadow Banking System, May 5, 2010, p. 2; Warren Spector, interview by FCIC, March 30, 2010.
38. Cioffi, interview.
39. AIMA's Illustrative Questionnaire for Due Diligence of Bear Stearns High Grade Structured Credit Strategies Fund; Bank of America presentation to Merrill Lynch's Board of Directors, "Bear Stearns Asset Management: What Went Wrong."
40. Bear Stearns High-Grade Structured Credit Strategies Master Fund, Ltd., financial statements for the year ended December 31, 2006; Financial Statements, Bear Stearns High-Grade Structured Credit Strategies Enhanced Leverage Master Fund, Ltd., financial statements for the year ended December 31, 2006; BSAM fund chart prepared by JP Morgan.
41. FCIC staff calculations using data from FCIC survey of hedge funds. The hedge funds responding to the survey had a total of \$1.2 trillion in investments.
42. IMF, *Global Financial Stability Report*, April 2008, Table 1.2, page 23, "Typical 'Haircut' or Initial Margin."
43. Alan Schwartz, interview by FCIC, April 23, 2010.
44. Cioffi, interview.
45. *Ibid.*
46. *Ibid.*
47. Bear Stearns High-Grade Structured Credit Strategies, investor presentation, stating that "the fund is subject to conflicts of interest." Bear Stearns High-Grade Structured Credit Strategies Enhanced Leverage Fund, L.P., Preliminary Confidential Private Placement Memorandum, August 2006. Everquest Financial Ltd., Form S-1, p. 13.
48. Bear Stearns Asset Management Collateral Manager, presentation, stating that Klio I collateral includes 73% RMBS and ABS and 27% CDOs, Klio II collateral includes 74% RMBS and ABS and 26% CDOs, and Klio III collateral includes 74% RMBS and ABS and 26% CDOs; Cioffi, interview.
49. Everquest Financial Ltd., Form S-1, pp. 9, 3.
50. Bear Stearns Asset Management, Collateral Manager Presentation.
51. Cioffi and Tannin Compensation Table, produced by Paul, Weiss, Rifkind, Wharton & Garrison, LLP.

52. Matt Tannin, Bear Stearns, email to Bella Borg-Brenner, Stillwater Capital, March 16, 2007; Greg Quental, Bear Stearns, email to Andrew Donnellan, Bear Stearns, et al., June 6, 2007.
53. Charles Prince, interview by FCIC, March 17, 2010.
54. Regulators in Japan and the United Kingdom also came down on the company in 2004 and 2005. In September 2004, Japan's Financial Services Agency suspended Citibank's ability to operate branches in Japan because of the bank's participation in alleged illegal activity in that country, and in the following year the United Kingdom's Financial Services Authority fined Citigroup \$25 million for engaging in a bond trading scheme labeled "Dr. Evil" by Citigroup bond traders. Financial Services Agency, Government of Japan, "Administrative Actions on Citibank, N.A. Japan Branch," September 17, 2004; Financial Services Authority, "Final Notice" to Citigroup Global Markets Limited, June 28, 2005 ([www.fsa.gov.uk/pubs/final/cgml\\_28jun05.pdf](http://www.fsa.gov.uk/pubs/final/cgml_28jun05.pdf)); David Reilly, "Moving the Market: Citigroup to Take \$25 Million Hit in 'Dr. Evil' Case," *Wall Street Journal*, June 29, 2005.
55. Prince, interview.
56. Robert Rubin, interview by FCIC, March 11, 2010.
57. Dominguez, interview by FCIC, March 2, 2010. The CDO desk earned revenues of \$367 million in 2005. Paul, Weiss, Citigroup's counsel, letter to FCIC, March 31, 2010, in re the FCIC's second and third supplemental requests, "Response to Interrogatory No. 21."
58. Janice Warne, interview by FCIC, February 2, 2010; Paul, Weiss, Citigroup's counsel, letter to FCIC, March 1, 2010, "Response to Interrogatory No. 18."
59. Paul, Weiss, Citigroup's counsel, letter to FCIC, March 1, 2010, "Response to Interrogatory No. 18."
60. Moody's Investors Service, "CDOs with Short-Term Tranches: Moody's Approach to Rating Prime-1 CDO Notes," February 3, 2006, p. 11.
61. Citigroup Inc., Form 10-K, for the fiscal year ended December 31, 2007, filed February 22, 2008, p. 91.
62. Everquest Financial Ltd., Form S-1, May 9, 2007, p. 93.
63. Dominguez, interview, March 2, 2010.
64. *Ibid.*; Warne, interview.
65. Dominguez, interview, March 2, 2010.
66. Warne, interview.
67. GCIB Capital Markets Approval Committee, Coventree Capital, "Liquidity Put Option," draft as of December 13, 2002, p. 4.
68. Ron Frake, interview by FCIC, March 11, 2010.
69. "Formal Agreement" between the Comptroller of the Currency and Citibank, July 22, 2003.
70. Moody's Investors Service, "CDOs with Short-Term Tranches."
71. *Ibid.*; Bank of America Corporation, Form 10-Q for the quarterly period ended September 30, 2007, p. 19; Floyd Norris, "As Bank Profits Grew, Warning Signs Went Unheeded," *New York Times*, November 16, 2007.
72. Dominguez, interview, March 2, 2010.
73. Paul, Weiss, Citigroup's counsel, letter to FCIC, June 23, 2010, "Responses of Nestor Dominguez," p. 6.
74. OCC, "Subprime CDO Valuation and Oversight Review—Conclusion Memorandum," Memorandum from Michael Sullivan, RAD, and Ron Frake, NBE, to John Lyons, Examiner-in-Charge, Citibank, NA, January 17, 2008, p. 6.
75. *Ibid.*
76. Tobias Brushammar et al., memorandum to Nestor Dominguez et al., "Re: Liquidity Put Valuation," October 19, 2006, pp. 1, 3–4; "Liquidity Put Discussion," pt. 1, produced by Citi.
77. "Liquidity Put Discussion," produced by Citi.
78. Data provided by Moody's to the FCIC.
79. Gary Gorton, interview by FCIC, May 11, 2010.
80. AIG, 2008 10-K, p. 133. Assets are assigned a "risk weighting" or percentage that is then multiplied by 8% capital requirement to determine the amount of risk-based capital.
81. AIG, CDS notional balances at year-end 2000 through 2010 Q1, provided to the FCIC.
82. The total would reach \$78 billion by 2007 (*ibid.*).

83. Gene Park, interview by FCIC, May 18, 2010.
84. Craig Broderick, testimony before the FCIC, Hearing on the Role of Derivatives in the Financial Crisis, day 1, session 3: Goldman Sachs Group, Inc. and Derivatives, June 30, 2010, transcript, pp. 289–90.
85. Moody's, "CDOs with Short-Term Tranches"; AIG, "Information Pertaining to the Multi-sector CDS Portfolio," provided to the FCIC.
86. Park, interview.
87. AIG, CDS notional balances at year-end, 2000 through 2010 Q1.
88. Alan Frost, interview by FCIC, May 11, 2010.
89. AIG Financial Products Corp. Deferred Compensation Plan, March 18, 2005, p. 2.
90. Joseph Cassano, email to All Users, re: 2007 Special Compensation Plan, December 17, 2007.
91. Joseph Cassano compensation history, provided by AIG to the FCIC.
92. AIG, Form 8-K, filed May 1, 2005.
93. "Fact Sheet on AIGFP" provided by Hank Greenberg, p. 4.
94. AIG, CDS notional balances at year-end.
95. Gene Park, email to Joseph Cassano, re: "CDO of ABS Approach Going Forward—Message to the Dealer Community," February 28, 2006.
96. Henry M. Paulson Jr., testimony before the FCIC, Hearing on the Shadow Banking System, day 2, session 1: Perspective on the Shadow Banking System, May 6, 2010, transcript, p. 22.
97. Henry M. Paulson Jr., written testimony for the FCIC, Hearing on the Shadow Banking System, day 2, session 1: Perspective on the Shadow Banking System, May 6, 2010, p. 2.
98. Goldman Sachs, 2005 and 2006 10-K (appendix 5a to Goldman's March 8, 2010, letter to the FCIC).
99. Appendix 5c to Goldman's March 8, 2010, letter to the FCIC.
100. Goldman's March 8, 2010, letter to the FCIC, p. 28 (subprime securities).
101. "Protection Bought by GS," spreadsheet provided by Goldman Sachs to the FCIC. Specifically, IKB purchased \$30 million of Class A notes, \$40 million of Class B notes, and \$30 million of Class C notes on June 9, 2004. TCW purchased \$50 million of Class A notes in January 2005, and Wachovia purchased \$45 million of Class A notes in March 2005. See *ibid.*, Exhibit 1.
102. FCIC staff calculations based on data provided by Goldman Sachs.
103. "Protection Bought by GS," spreadsheet.
104. FCIC calculations based on data provided by Goldman Sachs.
105. FCIC staff analysis based on data provided by Goldman Sachs.
106. Sparks, interview.
107. Of course, in theory the *net* impact on the financial system is not greater, because there is a winner for every loser in the derivatives market.
108. Sparks, interview.
109. From Goldman Sachs data provided to the FCIC in a handout titled "Amplification" and quoted at the FCIC's Hearing on the Role of Derivatives in the Financial Crisis, day 1, session 3: Goldman Sachs Group, Inc. and Derivatives, June 30, 2010.
110. FCIC staff analysis based on data provided by Goldman Sachs.
111. Lloyd Blankfein, chairman of the board and chief executive officer, Goldman Sachs Group, interview by FCIC, June 16, 2010; Sparks, interview.
112. Gary Cohn, testimony before the FCIC, Hearing on the Role of Derivatives in the Financial Crisis, day 1, session 3: Goldman Sachs Group, Inc. and Derivatives, June 30, 2010, transcript, p. 351.
113. Parkinson, interview.
114. Michael Greenberger, before the FCIC, Hearing on the Role of Derivatives in the Financial Crisis, day 1, session 1: Overview of Derivatives, June 30, 2010; oral testimony, transcript, p. 109; written testimony, p. 16.
115. Moody's Investors Service, "Summary of Key Provisions for Cash CDOs as of January 2000–2010."
116. Gary Witt, written testimony for the FCIC, Hearing on Credibility of Credit Ratings, the Investment Decisions Made Based on Those Ratings, and the Financial Crisis, day 1, session 1: The Ratings Process, June 2, 2010, pp. 12, 15.

117. *Ibid.*, 12.
118. Gary Witt, testimony before the FCIC, Hearing on Credibility of Credit Ratings, the Investment Decisions Made Based on those Ratings, and the Financial Crisis, day 1, session 1: The Ratings Process, June 2, 2010, transcript, pp. 168, 436.
119. Moody's Investors Service, "Moody's Approach to Rating Multisector CDOs," September 15, 2000, p. 5.
120. Gary Witt, interview by FCIC, April 21, 2010.
121. Witt, written testimony for the FCIC, June 2, 2010, p. 17.
122. Gary Witt, follow-up interview by FCIC, May 13, 2010.
123. Witt, interview, April 21, 2010.
124. For example, Moody's assumed that borrowers with different credit ratings would not default at the same time. The agency split the securities into three subcategories based on the average FICO score of the underlying mortgages: prime (FICO greater than 700), midprime (FICO between 700 and 625), and subprime (FICO under 625). Creating three FICO-based subcategories rather than the traditional two (prime and subprime) resulted in lower correlation assumptions, because mortgage-backed securities in different subcategories were assumed to be less correlated. "Moody's Revisits Its Assumptions Regarding Structured Finance Default (and Asset) Correlations for CDOs," June 27, 2005, pp. 15, 5, 7, 9, 4; Gary Witt, interview by FCIC, May 6, 2010.
125. Hedi Katz, "U.S. Subprime RMBS in CDOs," Fitch Special Report, April 15, 2005, p. 3; Sten Bergman, "CDO Evaluator Applies Correlation and Monte Carlo Simulation to Determine Portfolio Quality," Standard & Poor's Global Credit Portal RatingsDirect, November 13, 2001, p. 8.
126. Ingo Fender and Janet Mitchell, "Structured Finance: Complexity, Risk and the Use of Ratings," *BIS Quarterly Review* (June 2005): 68 ([www.bis.org/publ/qtrpdf/r\\_qt0506.pdf](http://www.bis.org/publ/qtrpdf/r_qt0506.pdf)).
127. Based on an FCIC survey of 40 CDO managers and 11 underwriters about the process of creating and marketing CDOs.
128. Moody's Investors Service, "Structured Finance Rating Transitions: 1983–2006," January 2007, pp. 7, 64. Of structured finance securities originally rated triple-A between 1984 and 2006, 56% retained their original rating 5 years later, 5% were downgraded, and 39% were withdrawn.
129. Kyle Bass, testimony to the House Financial Services Committee, Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises, *Hearing on the Role of Credit Rating Agencies in the Structured Finance Market*, 110th Cong., 1st sess., September 27, 2007, p. 11.
130. "Structured Finance Rating Transitions: 1983–2008," Moody's Credit Policy Special Comment, March 2009, p. 2.
131. Moody's Investors Service, "Announcement: Moody's Updates Its Key Assumptions for Rating Structured Finance CDOs," December 11, 2008.
132. Ben Bernanke, closed-door session with FCIC, November 17, 2009.
133. Ann Rutledge, email to FCIC, November 16, 2010. Ann Rutledge is a principal in R&R Consulting, a coauthor of *Elements of Structured Finance* (Oxford: Oxford University Press, 2010), and a former employee of Moody's Investor Service. She and co-principal Sylvain Raines first spoke to the FCIC on April 12, 2010.
134. From Moody's "Structured Finance: Special Report," the following page 1 headlines: "2004 U.S. CDO Review / 2005 Preview: Record Activity Levels Driven by Resecuritization CDOs and CLOs," February 1, 2005; "2005 U.S. CDO Review: Looking Ahead to 2006: Record Year Follows Record Year," February 6, 2006; "2008 U.S. CDO Outlook and 2007 Review: Issuance Down in 2007 Triggered by Subprime Mortgages Meltdown; Lower Overall Issuance Expected in 2008," March 3, 2008.
135. Moody's annual gross revenues for ABS CDO ratings was \$11,730,234 in 2003, \$22,210,695 in 2004, \$40,332,909 in 2005, \$91,285,905 in 2006, and \$94,666,014 in 2007. Information provided by Moody's, May 3, 2010. See also Moody's Corporation 2006 10-K, p. 66 and Moody's Corporation, 2007 10-K.
136. Witt, testimony before the FCIC, June 2, 2010, transcript, p. 46.
137. Witt, written testimony for the FCIC, June 2, 2010, p. 11; Witt, interview, April 21, 2010.
138. Eric Kolchinsky, interview by FCIC, April 27, 2010.
139. Witt, interview, April 21, 2010.
140. FCIC staff estimates based on analysis of Moody's CDO EMS database.

141. Yuri Yoshizawa, interview by FCIC, May 17, 2010. The chart was labeled “Derivatives (America).”
142. Brian Clarkson, interview by FCIC, May 20, 2010.
143. Harvey Goldschmid, interview by FCIC, March 24, 2010; Annette Nazareth, interview by FCIC, April 1, 2010.
144. Office of Thrift Supervision, letter to the SEC, February 11, 2004.
145. Lehman Brothers, Inc., letter to the SEC, March 8, 2004; J.P. Morgan Chase & Co., letter to the SEC, February 12, 2004; Deutsche Bank A.G. and Deutsche Bank Secs., letter to the SEC, February 18, 2004.
146. Harvey Goldschmid, interview by FCIC, April 8, 2010.
147. Closed meeting of the Securities and Exchange Commission, April 28, 2004.
148. In 2005, the Division of Market Regulation became the Division of Trading and Markets. For the sake of simplicity, throughout this report it is referred to as the Division of Market Regulation.
149. Erik Sirri, interview by FCIC, April 1, 2010. Although there are more than 1,000 SEC examiners, collectively they regulate more than 5,000 broker-dealers (with more than 750,000 registered representatives) as well as other market participants.
150. Michael Macchiaroli, interview by FCIC, March 18, 2010.
151. The monitors met with senior business and risk managers at each CSE firm every month about general concerns and risks the firms were seeing. Written reports of these meetings were given to the director of market regulation every month. In addition, the CSE monitors met quarterly with the treasury and financial control functions of each CSE firm to discuss liquidity and funding issues.
152. Erik Sirri, written testimony for the FCIC, Hearing on the Shadow Banking System, day 1, session 3: SEC Regulation of Investment Banks, May 5, 2010.
153. Internal SEC memorandum, Re: “CSE Examination of Bear Stearns & Co. Inc.,” November 4, 2005.
154. Securities and Exchange Commission, Office of Inspector General, “SEC’s Oversight of Bear Stearns and Related Entities: The Consolidated Supervised Entity Program,” Report No. 446-A, September 25, 2008, pp. 17–18.
155. Michael Macchiaroli, interview by FCIC, April 13, 2010.
156. Robert Seabolt, email to James Giles, Steven Spurry, and Matthew Eichner, October 1, 2007.
157. Matt Eichner, interview by FCIC, April 14, 2010; SEC, OIG, “SEC’s Oversight of Bear Stearns and Related Entities: The Consolidated Supervised Entity Program,” p. 109.
158. Goldschmid, interview.
159. GAO, “Financial Markets Regulation: Financial Crisis Highlights Need to Improve Oversight of Leverage at Financial Institutions,” GAO-09-739 (Report to Congressional Committees), July 2009, pp. 38–42.
160. Erik Sirri, “Securities Markets and Regulatory Reform,” remarks at the National Economists Club, Washington, D.C., April 9, 2009.
161. Harvey Goldschmid, interview, April 8, 2010.
162. “Chairman Cox Announces End of Consolidated Supervised Entities Program,” SEC press release, September 26, 2008.
163. Mary Schapiro, testimony before the FCIC, First Public Hearing of the Financial Crisis Inquiry Commission, day 2, panel 1: Current Investigations into the Financial Crisis—Federal Officials, January 14, 2010, transcript, p. 39.
164. The Fed remained the supervisor of JP Morgan at the holding company level.
165. Mark Olson, interview by FCIC, October 4, 2010.
166. Federal Reserve System, “Financial Holding Company Project,” January 25, 2008, p. 3.

### Chapter 9

1. Warren Peterson, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Greater Bakersfield, session 3: Residential and Community Real Estate, September 7, 2010, pp. 1, 3.
2. Gary Crabtree, principal owner, Affiliated Appraisers, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Greater Bakersfield, session 4: Local Housing Market, September 7, 2010, p. 2.



3. Lloyd Plank, Lloyd E. Plank Real Estate Consultants, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Greater Bakersfield, session 4: Local Housing Market, September 7, 2010, p. 2.
4. CoreLogic Single Family Combined (SFC) Home Price Index, data accessed August 2010. FCIC calculation of change from January 1997 to April 2006, peak.
5. Professor Robert Shiller, Historical Housing data.
6. Final Report of Michael J. Missal, Bankruptcy Court Examiner, In RE: New Century TRS Holdings, Chapter 11, Case No. 07-10416 (KJC), (Bankr. D.Del), February 29, 2008, pp. 145, 138, 139–40 (hereafter Missal).
7. *Ibid.*, p. 3.
8. Nomura Fixed Income Research, “Notes from Boca Raton: Coverage from Selected Sessions of ABS East 2005,” September 20, 2005, pp. 5–7.
9. Alan Greenspan, “The Economic Outlook,” testimony before the Joint Economic Committee, 109th Cong., 1st sess., June 9, 2005.
10. Christopher Mayer, written testimony for the FCIC, Forum to Explore the Causes of the Financial Crisis, day 2, session 5: Mortgage Lending Practices and Securitization, February 27, 2010, pp. 5–6.
11. Antonio Fatás, Prakash Kannan, Pau Rabanal, and Alasdair Scott, “Lessons for Monetary Policy from Asset Price Fluctuations Leaving the Board,” International Monetary Fund, *World Economic Outlook* (Fall 2009), chapter 3.
12. James MacGee, “Why Didn’t Canada’s Housing Market Go Bust?” Federal Reserve Bank of Cleveland. *Economic Comment* (December 2, 2009).
13. Morris A. Davis, Andreas Lehnert, and Robert F. Martin, “The Rent-Price Ratio for the Aggregate Stock of Owner-Occupied Housing,” Federal Reserve Board Working Paper, May 2005, p. 2.
14. Price data from CoreLogic CSBA Home Price Index, Single-Family Combined. Rent data is Bureau of Labor Statistics, metro-level Consumer Price Index (CPI-U), Owners’ Equivalent Rent for Primary Residence; all index figures are adjusted so that Jan. 1997=1. Methods follow from Federal Reserve Bank of San Francisco Economic Letter, “House Prices and Fundamental Value,” Number 2004–27, October 1, 2004.
15. National Association of Realtors Housing Affordability Index, accessed from Bloomberg as composite Index (HOMECOMP). The index began in 1986.
16. The index also assumes that the qualifying ratio of 25%, so that the monthly principal & interest payment could not exceed 25% of the median family monthly income. More about the methodology can be found at National Association of Realtors, Methodology for the Housing Affordability Index.
17. Ben Bernanke, letter to FCIC Chairman Phil Angelides, December 21, 2010, p. 2.
18. Kristopher S. Gerardi, Christopher L. Foote, and Paul S. Willen, “Reasonable People Did Disagree: Optimism and Pessimism about the U.S. Housing Market Before the Crash,” Federal Reserve Bank of Boston Public Policy Discussion Paper No. 10-5, August 12, 2010.
19. Donald L. Kohn, “Monetary Policy and Asset Prices,” speech delivered at “Monetary Policy: A Journey from Theory to Practice,” a European Central Bank Colloquium held in honor of Otmar Issing, Frankfurt, Germany, March 16, 2006.
20. Richard A. Brown, “Rising Risks in Housing Markets,” memorandum to the National Risk Committee of the Federal Deposit Insurance Corporation, March 21, 2005, pp. 1–2.
21. Board of Governors, memorandum from Josh Gallin and Andreas Lehnert to Vice Chairman [Roger] Ferguson, “Talking Points on House Prices,” May 5, 2005, p. 3.
22. Missal, p. 40.
23. William Black, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Miami, Florida, session 1: Overview of Mortgage Fraud, September 21, 2010, transcript, p. 78; and email from William Black to FCIC, December 12, 2010.
24. Reply of Attorney General Lisa Madigan (Illinois) to the FCIC, April 27, 2010, p. 7.
25. Chris Swecker, Assistant Director Criminal Investigative Division Federal Bureau of Investigation, statement before the House Financial Services Subcommittee on Housing and Community Opportunity, 108th Cong., 2nd sess., October 7, 2004.
26. Florida Department of Law Enforcement, “Mortgage Fraud Assessment,” November 2005.



27. Wilfredo Ferrer, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Miami, Florida, session 3: The Regulation, Oversight, and Prosecution of Mortgage Fraud in Miami, September 21, 2010, transcript, pp. 186–87.
28. Ann Fulmer, supplemental written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Miami, Florida, session 1: Overview of Mortgage Fraud, September 21, 2010, p. 2; Fulmer, testimony, transcript, pp. 80–81.
29. Ed Parker, interview by FCIC, May 26, 2010.
30. David Gussmann, interview by FCIC, March 30, 2010.
31. William H. Brewster, interview by FCIC, October 29, 2010.
32. Henry Pontell, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Miami, Florida, session 1: Overview of Mortgage Fraud, September 21, 2010, p. 1.
33. Department of Justice, Office of the Inspector General, “The Internal Effects of the FBI’s Reprioritization, September 2004,” p. 1.
34. Chris Swecker, interview by FCIC, March 8, 2010.
35. Patrick Crowley, MortgageDaily.com, November 24, 2003.
36. Swecker, statement to the House Financial Services Subcommittee on Housing and Community Opportunity, October 7, 2004.
37. William Black, written testimony for the FCIC, September 21, 2010, p. 17.
38. Francisco San Pedro, interview by FCIC, September 20, 2010.
39. FinCEN report to the FCIC on Countrywide SAR activity, 1999–2009.
40. OCC, letter to Bank of America, June 5, 2007.
41. Darcy Parmer, interview by FCIC, June 4, 2010.
42. FinCEN, “Mortgage Loan Fraud: An Industry Assessment Based on SAR Analysis,” November 2006, pp. 2, 6.
43. Swecker, statement before the House Financial Services Subcommittee on Housing and Community Opportunity, October 7, 2004.
44. Swecker, interview.
45. FinCEN, “Mortgage Loan Fraud Update: Suspicious Activity Report Filings from April–June 30, 2010,” p. 21.
46. DOJ, letter from Assistant Attorney General Ronald Welch to the FCIC, April 28, 2010, pp. 1, 3, October 21, 2010, p. 2.
47. Robert Mueller, interview by FCIC, December 14, 2010.
48. Alberto Gonzales, interview by FCIC, November 1, 2010.
49. OFHEO, “2007 Performance and Accountability Report,” pp. 13, 17.
50. Richard Spillenkothen, interview by FCIC, March 19, 2010.
51. Michael J. Mukasey, interview by FCIC, October 20, 2010.
52. DOJ response to FCIC request, April 16, 2010; see also DOJ response to FCIC request, April 28, 2010.
53. William Black, testimony before the FCIC, September 21, 2010, transcript, p. 38.
54. Swecker, interview.
55. Ellen Wilcox, special agent, Florida Department of Law Enforcement, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Miami, session 2: Uncovering Mortgage Fraud in Miami, September 21, 2010, transcript, p. 80; “Participant in \$13 Million Mortgage Fraud Scheme Convicted by Polk County Jury,” Office of Florida Attorney General Bill McCollum press release, August 28, 2008.
56. Tenth Judicial Circuit in and for Polk County, Florida, State of Florida vs. Scott Almeida, et al., OSWP No. 2005-0256-TPA; July 23, 2007, see paragraphs 2, 17, 18, 19, 28, and 32.
57. Wilcox, testimony before the FCIC, September 21, 2010, transcript, pp. 98–99.
58. Gary Gorton, “The Panic of 2007,” paper presented at the Federal Reserve Bank of Kansas City, Jackson Hole Conference, “Maintaining Stability in a Changing Financial System,” August 2008.
59. Adam B. Ashcraft and Til Schuermann, “Understanding the Securitization of Subprime Mortgage Credit,” Federal Reserve Bank of New York Staff Report No. 318, March 2008, pp. 5–11.
60. Raymond McDaniel, quoted in the transcript of Moody’s Managing Director’s Town Hall Meeting, September 11, 2007.

61. Keith Johnson, former president and chief operating officer of Clayton Holdings, Inc., interview by FCIC, September 2, 2010.
62. Frank Filippis, interview by FCIC, August 9, 2010.
63. Vicki Beal, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Sacramento, session 3: The Mortgage Securitization Chain: From Sacramento to Wall Street, September 23, 2010, transcript, pp. 155, 155–56.
64. Beal, testimony before the FCIC, September 23, 2010, transcript, pp. 169, 157; see also Martha Coakley, Massachusetts Attorney General, comment letter to the Securities and Exchange Commission regarding proposed rule regarding asset-backed securities, Release No. 33-9117; 34-61858; File No. S7-08-10, August 2, 2010, p. 6.
65. Beal, testimony before the FCIC, September 23, 2010, transcript, pp. 169–70.
66. D. Keith Johnson, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Sacramento, session 3: The Mortgage Securitization Chain: From Sacramento to Wall Street, September 23, 2010, transcript, pp. 183–84.
67. *Ibid.*, p. 211.
68. Beal, testimony before the FCIC, September 23, 2010, transcript, p. 172.
69. John J. Goggins, senior vice president and general counsel, Moody's, letter to FCIC regarding "September 27, 2010 Article Published in *The New York Times* Misconstruing Commission Testimony," September 30, 2010.
70. Johnson, testimony before the FCIC, September 23, 2010, transcript, p. 174.
71. Missal, p. 67.
72. Roger Ehrnman, interview by FCIC, September 2, 2010; Johnson, testimony before the FCIC, September 23, 2010, transcript, p. 178.
73. Tony Peterson, interview by FCIC, October 14, 2010.
74. Joseph Schwartz, vice president in charge of mortgage acquisition due diligence, Deutsche Bank, interview by FCIC, July 21, 2010; William Collins Buell VI, head of mortgage acquisition, JP Morgan, interview by FCIC, September 15, 2010.
75. Richard M. Bowen, written testimony for the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 1, session 2: Subprime Origination and Securitization, April 7, 2010, p. 2.
76. Richard M. Bowen, interview by FCIC, February 27, 2010; FCIC correspondence with Richard M. Bowen.
77. Inside Mortgage Finance, *The 2009 Mortgage Market Statistical Annual*, vol. 2, *The Secondary Market* (Bethesda, MD: Inside Mortgage Finance, 2009), p. 156; FCIC staff estimate based on analysis of Moody's CDO EMS database.
78. See, for example, James C. Treadway Jr., "An Overview of Rule 415 and Some Thoughts About the Future," remarks to the thirteenth annual meeting of the Securities Industry Association, Hot Springs, Virginia, October 8, 1983.
79. Shelley Parratt and Paula Dubberly, interview by the FCIC, October 1, 2010.
80. 17 C.F.R. Part 229.1111(a)(3), "Pool Assets," revised as of April 1, 2005.
81. See Part V of complaint filed by Cambridge Place Investment Management Inc., dated July 9, 2010, in Suffolk County (Massachusetts) Superior Court, Cambridge Place Investment Management, Inc., v. Morgan Stanley & Co., Inc., Case No. 10-27841, p. 71 (hereafter Cambridge Complaint), and Part V of complaint filed by Federal Home Loan Bank of Chicago, dated October 15, 2010, in Circuit Court of Cook County, Illinois (Chancery Division), Federal Home Loan Bank of Chicago v. Banc of America Funding Corp. et al., Case No. 10CH450B3, p. 173.
82. Cambridge Complaint, pp. 32–33, 61–63, 70–71, 75–76.
83. Bowen, interview.
84. D. Keith Johnson, former president and chief operating officer, Clayton Holdings, Inc., interview by FCIC, June 8, 2010.
85. A QIB was defined under Rule 144A to include "entities, acting for its own account or the accounts of other qualified institutional buyers, that in the aggregate owns and invests on a discretionary basis at least \$100 million in securities of issuers that are not affiliated with the entity." See 17 C.F.R. 230.144A, "Private Resale of Securities to Institutions."

86. Dennis Voigt Crawford, testimony before the FCIC, First Public Hearing of the FCIC, day 2, session 2: Current Investigation into the Financial Crisis—State and Local Officials, January 14, 2010, p. 112.
87. Richard Breeden, interview by FCIC, October 14, 2010. See Public Law 104–290 (Oct. 11, 1996); Rule 144A contained provisions that ensured it did not expand to the securities markets in which retail investors did participate.
88. Federal Reserve Board, SR 9724, “Risk-Focused Framework for Supervision of Large Complex Institutions,” October 27, 1997.
89. Alan Greenspan, “The Evolution of Bank Supervision,” speech before the American Bankers Association, Phoenix, Arizona, October 11, 1999.
90. Eugene Ludwig, interview by FCIC, September 2, 2010.
91. Federal Reserve Bank of New York, “Report on Systemic Risk and Supervision,” Draft of August 5, 2009, p. 2.
92. Rich Spillenkothen, “Notes on the performance of prudential supervision in the years preceding the financial crisis by a former director of banking supervision and regulation at the Federal Reserve Board (1991 to 2006),” May 31, 2010, 12.
93. Susan Bies, interview by FCIC, October 11, 2010.
94. Bernanke, letter to the FCIC, December 21, 2010.
95. John Snow, interview by FCIC, October 7, 2010.
96. Office of the Comptroller of the Currency, Board of Governors of the Federal Deposit Insurance Corporation, Office of Thrift Supervision, and National Credit Union Administration, “Credit Risk Management Guidance for Home Equity Lending,” May 16, 2005.
97. *2009 Mortgage Market Statistical Annual*, 1:3; “Residential Mortgage Lenders Peer Group Survey: Analysis and Implications for Guidance,” PowerPoint presentation, November 30, 2005, pp. 13, 3.
98. Sabeth Siddique, interview by the FCIC, September 9, 2010.
99. “Residential Mortgage Lenders Peer Group Survey: Analysis and Implications for Guidance,” PowerPoint, November 30, 2005.
100. Bies, interview.
101. Office of the Comptroller of the Currency, Board of Governors of the Federal Deposit Insurance Corporation, Office of Thrift Supervision, and National Credit Union Administration, “Interagency Guidance on Nontraditional Mortgage Products,” *Federal Register* 70 (December 29, 2005): 77,249, 72,252, 72,253.
102. Paul Smith, American Bankers Association, letter to the Federal Deposit Insurance Corporation, Board of Governors of the Federal Reserve System, Office of Thrift Supervision, and Office of the Comptroller of the Currency, March 29, 2006, p. 2.
103. Letter from American Financial Services Association to federal regulators 8, available at [http://www.ots.treas.gov/\\_files/comments/d1e85ce1-07ab-4acf-8db5-8d1747afba0a.pdf](http://www.ots.treas.gov/_files/comments/d1e85ce1-07ab-4acf-8db5-8d1747afba0a.pdf).
104. Letters to the Office of Thrift Supervision from the American Bankers Association (March 29, 2006), p. 2; the American Financial Services Association (March 28, 2006), p. 8; and Indymac Bank (March 29, 2006), p. 4.
105. The Housing Policy Council of the Financial Services Roundtable, letter to the Office of Thrift Supervision, March 29, 2006, p. 6.
106. Siddique, interview.
107. Binyamin Appelbaum and Ellen Nakashima, “Banking Regulator Played Advocate Over Enforcer: Agency Let Lenders Grow Out of Control, Then Fail,” *Washington Post*, November 23, 2008.
108. Bies, interview.
109. See, e.g. “Countrywide Seeks to Become Savings Bank; The Mortgage Lender Says It Is Planning to Apply to Convert Its Charter So It Will Be Regulated by One Federal Agency instead of Two,” *Los Angeles Times*, November 11, 2006, based on *Bloomberg, Reuters*.
110. Kim Sherer, interview by FCIC, August 3 2003.
111. Countrywide, “Briefing Paper: Meeting with Office of Thrift Supervision, Thursday July 13, 2006.”

112. Angelo Mozilo, email to John McMurray (cc Dave Sambol, Carlos Garcia), re: Pay Options, August 12, 2006; John McMurray, email to Angelo Mozilo (cc Kevin Bartlett, Carlos Garcia, Dave Sambol), re: Pay Options, August 13, 2006.

113. The cost of borrowing is reflected by credit spreads, the portion of interest rates that compensate investors for credit risk. Credit spreads are the interest rates that investors require above the so-called risk-free interest rate, usually measured in terms of Treasuries or interest rate swaps with similar characteristics.

114. Congressional Oversight Panel, "Commercial Real Estate Losses and the Risk to Financial Stability," February 10, 2010, pp. 58–60.

115. Loan Syndication Trading Association, "The US Loan Market Today," presentation.

116. Loan Syndication Trading Association, "Financial Reform and the Leveraged Loan Market," presentation.

117. *Ibid.*, Loan Syndication Trading Association, "Challenges Facing CLOs ... and the Loan Market," presentation.

118. *Ibid.*, p. 14. SEC, "Risk Management Reviews at Consolidated Supervised Entities," memorandum, April 26, 2007.

119. Michael Flaherty and Dena Aubin, "For Private Equity Market, All Eyes on First Data," *Reuters*, September 4, 2007.

120. SEC, "Risk Management Reviews of Consolidated Supervised Entities," memorandum, July 5, 2007.

121. Charles Prince, quoted in "Citigroup chief stays bullish on buyouts," *Financial Times*, July 9, 2007; testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 2, session 1: Citigroup Senior Management, April 8, 2010, transcript, pp. 49–50.

122. Roben Farzad, Matthew Goldstein, David Henry, and Christopher Palmeri, "Not So Smart," *BusinessWeek*, September 3, 2007.

123. Joseph Gyourko, "Understanding Commercial Real Estate: Just How Different from Housing Is It?" NBER Working Paper 14708, National Bureau of Economic Research, February 2009, pp. 23, 38.

124. CRE Finance Council, *Compendium of Statistics*, November 5, 2010, Exhibits 3, 2.

125. Joe Keohane, "Heartbreak Hotels," *Portfolio*, November 11, 2008.

126. "Hilton Debt Clogs Lenders' Balance Sheets," Commercial Mortgage Alert, February 20, 2009.

127. Tom Marano, interview by FCIC, April 19, 2010.

128. Jeff Mayer and Tom Marano, "Fixed Income Overview," Bear Stearns, March 29, 2007, p. 18.

129. Gyourko, "Understanding Commercial Real Estate: Just How Different from Housing Is It?" p. 1.

130. New York Federal Reserve Bank, "Maiden Lane LLC Holdings as of 9/30/2008."

131. Anton R. Valukas, Report of Examiner, *In re Lehman Brothers Holdings Inc., et al.*, Chapter 11 Case No. 08-13555 (JMP), (Bankr. S.D.N.Y.), March 11, 2010, 2:356 (hereafter cited as Valukas).

132. *Ibid.*, 2:356–58.

133. Madelyn Antoncic, "Lehman Brothers Risk Management," August 7, 2007, p. 5; and Antoncic, interview by FCIC, July 14, 2010.

134. Valukas, 1:43, 4; Antoncic, interview.

135. Valukas, 1:45–62, 79–80.

136. Jody Shenn, "Lehman Said to Return to Mortgage Market through Aurora Unit (Update 1)," *Bloomberg*, October 21, 2009.

137. SEC, "Risk Management Reviews of Consolidated Supervised Entities," memoranda, October 6, 2006; December 6, 2007; February 2, 2007; March 30, 2007; May 31, 2007; July 5, 2007; August 3, 2007; September 5, 2007; October 5, 2007.

138. Erik Sirri, interview by FCIC, April 1, 2010.

139. Valukas, 1:7; 18 nn. 63, 64; 3: 742, 815–22.

140. Valukas, 1:8, 20–21.

141. *The People of the State of New York v. Ernst & Young LLP* (N.Y. Sup. Ct. filed Dec. 21, 2010).

142. Ronald Marcus, interview by FCIC, July 23, 2010.

143. See Ronald S. Marcus, OTS, "Report of Examination Lehman Brothers Holdings Inc.," July 7, 2008, pp. 1–2.

144. David Sambol, interview by FCIC, September 27, 2010.
145. See Countrywide Financial Corporation, Form 10-K, February 29, 2007, p. 47. See also Fannie Mae, "Single-Family Conventional Acquisition Characteristics: Overall" (2007); Fannie Mae, "Single Family Conventional Acquisition Characteristics: Countrywide Financial Corporation" (2007); Countrywide, "Response to June 23 Request: 11 and 12: Summary."
146. "Single Family Guarantee Business: Facing Strategic Crossroads," June 27, 2005.
147. *Ibid.*
148. Daniel Mudd, interview by FCIC, March 26, 2010.
149. "Single Family Guarantee Business: Facing Strategic Crossroads."
150. "Single Family Guaranty Business Strategic Review Summary," PowerPoint presentation, July 19, 2005.
151. Citigroup, "Project Phineas: Presentation to the Board of Directors," executive summary, July 18 and 19, 2005.
152. "Single Family Conventional Acquisition Characteristics Overall," produced by Fannie Mae.
153. Tom Lund, interview by FCIC, March 4, 2010.
154. Christopher Dickerson to James B. Lockhart III, "Proposed Appointment of the Federal Housing Finance Agency as Conservator for the Federal National Mortgage Association," memorandum, September 6, 2008, p. 14
155. Fannie Mae, 3Q 2008 Form 10-Q, p. at 115; Fannie Mae, 2007 Form 10K, pp. 126–30.
156. By December 31, 2005, Freddie reported capital of \$36.4 billion; \$173 billion in loans to borrowers with FICO scores below 660; \$80 billion in high LTV; and \$93 billion in loans for non-owner-occupied homes. Federal Home Loan Mortgage Corporation, "Information Statement and Annual Report to Stockholders: For the fiscal year ended December 31, 2007," February 28, 2008, p. 74.
157. Richard Syron, interview by FCIC, August 31, 2010.
158. Anurag Saksena, interview by FCIC, June 22, 2010.
159. Donald Bisenius, interview by FCIC, September 29, 2010.
160. Saksena, interview.
161. "OFHEO, SEC Reach Settlement with Fannie Mae; Penalty Imposed," Office of Federal Housing Enterprise Oversight press release, May 23, 2006.
162. "Freddie Mac Voluntarily Adopts Temporary Limited Growth for Retained Portfolio," Federal Home Loan Mortgage Corporation press release, August 1, 2006.
163. OFHEO, Report of the Special Examination of Fannie Mae, May 2006.
164. OFHEO Report: "Fannie Mae Façade; Fannie Mae Criticized for Earnings Manipulation," Office of Federal Housing Enterprise Oversight press release, May 23, 2006.
165. James Lockhart, written testimony for the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 3, session 2: Office of Federal Housing Enterprise Oversight, April 9, 2010, p. 2.
166. *Ibid.*, p. 1.
167. Robert J. Levin, Board of Director Presentation, PowerPoint presentation, January 2006.
168. Minutes of the February 21, 2006, meeting of the Board of Directors of Fannie Mae (approved on April 25, 2006).
169. Stephen B. Ashley, Chairman Fannie Mae, remarks prepared for delivery at the Senior Management Meeting, Cambridge, Maryland, June 27, 2006.
170. Fannie Mae, "Notes to Single Family Conventional Acquisition Report," August 3, 2007; See also Federal National Mortgage Association, Form 10-K, for the fiscal year ended December 31, 2006, filed August 16, 2007.
171. FCIC staff estimates based on data provided by Fannie Mae.
172. Federal National Mortgage Association, "Form DEF 14A," November 2, 2007, p. 42; Federal National Mortgage Association, Form 10-K, May 2, 2007, p. 202.
173. OFHEO, Report of the Special Examination for Fannie Mae, May 2006, p. 8.
174. Federal Home Loan Mortgage Corporation, Form 10-K, for the fiscal year ended December 31, 2005, filed June 28, 2006, pp. 3, 19. Federal Home Loan Mortgage Corporation, Form 10-K, for the fiscal year ended December 31, 2006, filed March 23, 2007, pp. 3, 22.

175. Federal Home Loan Mortgage Corporation, Proxy Statement and Notice of Annual Meeting of Stockholders (May 7, 2007), Summary Compensation Table, p. 52 (for 2006 figures). Federal Home Loan Mortgage Corporation, Proxy Statement and Notice of Annual Meeting of Stockholders (July 12, 2006), Summary Compensation Table, p. 37 (for 2005 figures).
176. *Ibid.*
177. OFHEO, Report of the Special Examination for Fannie Mae, May 2006, pp. 3, 9–10, 15.
178. *Ibid.*, p. 2.
179. *Ibid.*
180. *Ibid.*, pp. 7–8.
181. *Ibid.*
182. Mark Winer, interview by FCIC, March 23, 2010.
183. Todd Hempstead, interview by FCIC, March 23, 2010.
184. Daniel Mudd, interview by FCIC, March 26, 2010.
185. Dickerson to Lockhart, Fannie Mae conservatorship memo, September 6, 2008, p. 14.
186. Minutes of a Meeting of the Fannie Mae Board of Directors, April 21, 2007.
187. Minutes of a Meeting of the Fannie Mae Board of Directors, May 21, 2007.
188. Federal National Mortgage Association, Form 10-K, for the fiscal year ended December 31, 2007, p. 24.
189. FCIC staff estimate based on data provided by Fannie Mae.
190. “Deepen Segments—Develop Breadth,” Fannie Mae Strategic Plan, 2007–2011.
191. Enrico Dallavecchia, email to Daniel Mudd, “Budget 2008 and strategic investments,” July 16, 2007.
192. Enrico Dallavecchia, email to Michael Williams, “RE:,” July 16, 2007.
193. Daniel Mudd, email to Enrico Dallavecchia, “RE: Budget 2008 and strategic investments,” July 17, 2007.
194. Enrico Dallavecchia, interview by FCIC, March 16, 2010.
195. Freddie Mac, “Freddie Mac’s Business Strategy, Board of Directors Meeting,” March 2–3, 2007, pp. 3–4.
196. Freddie Mac, “Freddie Mac’s Business Strategy, Board of Directors Meeting,” March 2–3, 2007, pp. 3–4, 70, 73.
197. OFHEO, 2006 Report of Examination for the Federal Home Loan Mortgage Corporation, pp. 8–9, 10–11.
198. Federal Housing Finance Agency, “Mortgage Market Note 10–2: The Housing Goals of Fannie Mae and Freddie Mac in the Context of the Mortgage,” February 1, 2010.
199. “HUD Announces New Regulations to Provide \$2.4 Trillion in Mortgages for Affordable Housing for 28.1 Million Families,” Department of Housing and Urban Development, press release, October 31, 2000.
200. Mudd, interview.
201. Robert Levin, interview by FCIC, March 17, 2010.
202. “HUD Finalizes Rule on New Housing Goals for Fannie Mae and Freddie Mac,” Department of Housing and Urban Development press release, November 1, 2004.
203. Mudd, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 3, session: 1 Fannie Mae, April 9, 2010, transcript, pp. 63–64.
204. See FHFA, “Annual Report to Congress 2009,” pp. 131, 148. The numbers are for mortgage assets + outstanding MBS guaranteed. Total assets + MBS are slightly greater.
205. OFHEO, “2008 Report to Congress,” April 15, 2008.
206. Robert Levin, interview by FCIC, March 17, 2010; Robert Levin, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 3, session 1: Fannie Mae, April 9, 2010, transcript, pp. 68–72.
207. Tom Lund, interview by FCIC, March 4, 2010.
208. Dallavecchia, interview.
209. Todd Hempstead, interview by FCIC, March 23, 2010.
210. Kenneth Bacon, interview by FCIC, March 5, 2010.

211. Stephen Ashley, interview by FCIC, March 31, 2010.
212. Levin, interview.
213. Mike Quinn, interview by FCIC, March 10, 2010.
214. Ashley, interview.
215. Armando Falcon, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 3, session 2: Office of Federal Housing Enterprise Oversight, April 9, 2010, transcript, pp. 155–56, 192; .written testimony, p. 10.
216. Lockhart, written testimony for the FCIC, April 9, 2010, p. 6; Lockhart, testimony before the FCIC, April 9, 2010, transcript, pp. 156–61.
217. James Lockhart, interview by FCIC, March 19, 2010.
218. Edward DeMarco, interview by FCIC, March 18, 2010; Maria Fernandez (with Alfred Pollard, Chris Dickerson, Jeffrey Spohn, and Jamie Newell), interview by FCIC, March 5, 2010.
219. Mike Price (with Janice Kuhl, Paul Manchester, Charlotte Reid, Alfred Pollard, and Kevin Sheehan), interview by FCIC, February 19, 2010.
220. Department of Housing and Urban Development, “HUD’s Housing Goals for the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) for the Years 2005–2008 and Amendments to HUD’s Regulation of Fannie Mae and Freddie Mac,” *Federal Register* 69, no. 211 (2 Nov. 2004): 63629.
221. FHFA, “The Housing Goals of Fannie Mae and Freddie Mac in the Context of the Mortgage Market.”
222. Daniel Mudd, letter to Brian Montgomery re affordable housing goals, December 21, 2007.
223. “Deepen Segments—Develop Breadth,” Fannie Mae Strategic Plan.
224. Brian D. Montgomery, Federal Housing Commissioner, to Daniel Mudd, Fannie Mae, typed letter, April 24, 2008; Brian D. Montgomery, Federal Housing Commissioner, to Richard F. Syron, Fannie Mae, typed letter, April 24, 2008.
225. “Cost of Freddie Mac’s Affordable Housing Mission,” PowerPoint presentation, June 4, 2009, pp. 7–8, 10–11.
226. Freddie’s net income was \$4.8 billion in 2003, \$2.6 billion in 2004, \$2.1 billion in 2005, \$2.3 billion in 2006, net loss of \$3.1 billion in 2007, and net loss of \$50.1 billion in 2008. Federal Home Loan Mortgage Corporation, Form 10-K, for the fiscal year ended December 31, 2009, filed February 24, 2010, Item 6, Selected Financial Data, p. 57 (for 2008 figure). Federal Home Loan Mortgage Corporation, “Information Statement and Annual Report to Stockholders: For the fiscal year ended December 31, 2007,” February 28, 2008, Selected Financial Data and Other Operating Measures, p. 28 (for 2003–07 figures).
227. “Cost and Benefits of Mission Activities: Project Phineas,” presentation, June 14, 2005.
228. March 13, 2007, Business Review Briefing; information confirmed by counsel to Fannie Mae on January 4, 2011.
229. “Fannie Mae’s Housing Goals,” Audit Team briefing, May 8, 2007.
230. “Fannie Mae Board of Directors Management Report,” PowerPoint presentation, July 17, 2007.
231. “Cost of Freddie Mac’s Affordable Housing Mission,” PowerPoint presentation, June 4, 2009, pp. 7–8, 10–11.

### Chapter 10

1. Gary Gorton, interview by FCIC, May 11, 2010.
2. Lewis Ranieri, interview by FCIC, July 30, 2010.
3. Complaint, SEC v. Goldman Sachs & Co. and Fabrice Tourre (S.D.N.Y. April 16, 2010).
4. Office of the Comptroller of the Currency, Treasury; Office of Thrift Supervision, Treasury; Board of Governors of the Federal Reserve System; Federal Deposit Insurance Corporation; and Securities and Exchange Commission, “Interagency Statement on Sound Practices Concerning Elevated Risk Complex Structured Finance Activities” (Notice of final interagency statement), January 5, 2007.
5. Wing Chau, interview by FDIC, November 11, 2010.
6. FCIC, Survey of 40 CDO Managers, Schedule A and B (1st production served on 28 managers, 2nd production served on 12 managers).
7. Vertical Capital, email response to FCIC survey, October 29, 2010.



8. As two market observers would later write, “Starting in 2004, CDOs and CDO investors became the dominant class of agents pricing credit risk on sub-prime mortgage loans. . . . In the absence of restraints, lenders started originating unreasonably risky loans in late 2005 and continued to do so into 2007.” Mark Adelson and David Jacob, “The Sub-prime Problem: Causes and Lessons,” January 8, 2008, p. 1.

9. Scott Simon, quoted in Allison Pyburn, “CDO Investors Debate Morality of Spread Environment,” *Asset Securitization Report*, May 9, 2005, p. 1.

10. Armand Pastine, quoted in *ibid.* According to the FCIC database, PIMCO did manage one more new CDO, Costa Bella CDO, which was issued in December 2006.

11. Source on downgrades: Bloomberg. Source on events on default: Moody’s Investors Service, “Moody’s downgrades ratings of Notes issued by Maxim High Grade CDO I, Ltd.,” April 18, 2008, and “Moody’s downgrades ratings of Notes issued by Maxim High Grade CDO II, Ltd.,” April 18, 2008.

12. ACA Capital, 2006 10-K, p. 12.

13. “ISDA Publishes Template for Credit Default Swaps on Asset-Backed Securities with Pay As You Go Settlement,” International Swaps and Derivatives Association press release, June 21, 2005 ([www.isda.org/press/press062105.html](http://www.isda.org/press/press062105.html)). Under the terms of the pay-as-you-go swap, if the referenced mortgage-backed security does not receive the full interest and principal payments, the pay-as-you-go protection seller is required to pay the buyer the amount of the shortfall. For long investors—the protection provider under the swap—the advantage was the leverage embedded in the trade: they did not have to come up with the cash up front for the principal amount of the bond; they simply agreed to receive quarterly swap fees in return for accepting the risk of loss if the securities experienced a shortfall.

14. Laura Schwartz, interview by FCIC, May 10, 2010.

15. Laurie S. Goodman, Shumin Li, Douglas J. Lucas, Thomas A. Zimmerman, and Frank J. Fabozzi, *Subprime Mortgage Credit Derivatives* (Frank J. Fabozzi Series) (Hoboken, NJ: John Wiley, 2008), p. 176.

16. Greg Lippmann, interview by FCIC, May 20, 2010.

17. FCIC staff estimates based on analysis of Moody’s CDO EMS database.

18. FCIC Hedge Fund Survey. From July through December 2006, several hedge funds with average assets under management of \$4–\$8 billion accumulated positions totaling more than \$1.4 billion in mortgage-related CDO equity tranches and almost \$3 billion of short positions in mortgage-related CDO mezzanine tranches. FCIC staff used a Moody’s proprietary CDO database to estimate the total mortgage-related CDO equity tranche issuance. Please see FCIC website for more information about the hedge fund survey. Note: the FCIC did not survey hedge funds that fully liquidated or closed. These funds may have purchased substantial “long only” positions in mortgage-related securities.

19. FCIC Hedge Fund Survey. See FCIC website for details.

20. Rabobank’s counsel, letter to Judge Fried of the Supreme Court of NY, May 11, 2010.

21. Norma Flow of Funds, information provided by Merrill Lynch.

22. Steven Ross, email to FCIC, December 21, 2010.

23. See letter from Rabobank’s counsel, letter to Judge Fried, May 11, 2010; the letter was never filed with the court because the case was settled.

24. Document of Magnetar Investments in Norma, Attachment G-13 (showing Magnetar purchases of equity tranche in Norma); provided by Merrill Lynch.

25. Information provided by Merrill Lynch, December 22, 2010.

26. Complaint, SEC v. Goldman Sachs & Co. and Fabrice Tourre.

27. Ira Wagner, interview by FCIC, April 20, 2010.

28. Alan Roseman, interview by FCIC, May 17, 2010.

29. Schwartz, interview.

30. John Paulson, interview by FCIC, October 28, 2010.

31. “Goldman Sachs to Pay Record \$550 Million to Settle SEC Charges Related to Subprime Mortgage CDO,” SEC press release, July 15, 2010.

32. Jamie Mai and Ben Hockett, interview by FCIC, April 22, 2010.

33. Sihan Shu, interview by FCIC, September 27, 2010.

34. Steven Eisman, interview by FCIC, April 22, 2010.

35. James Grant, “Inside the Mortgage Machine,” in *Mr. Market Miscalculates: The Bubble Years and Beyond* (Mount Jackson, VA: Axios, 2008), pp. 180–81, 182–83.

36. Eisman, interview.

37. Michael Burry, interview by FCIC, May 18, 2010.
38. Paulson, interview.
39. Burry, interview.
40. FCIC Hedge Fund Survey. See FCIC website for details.
41. John Geanakoplos, written testimony for the FCIC, Forum to Explore the Causes of the Financial Crisis, day 1, session 3: Risk Taking and Leverage, February 26, 2010, p. 16.
42. OCC, "Subprime CDO Valuation and Oversight Review—Conclusion Memorandum," memorandum from Michael Sullivan, RAD, and Ron Frake, NBE, to John Lyons, Examiner-in-Charge, Citibank, NA, January 17, 2008, p. 6; Paul, Weiss, Citigroup's counsel, letter to FCIC, June 23, 2010, "Responses of Nestor Dominguez."
43. Richard Bookstaber, interview by FCIC, May 11, 2010.
44. "RMBS and Citi-RMBS as a Percentage of Citi-CDO Portfolio Notionals," produced by Citi for the FCIC.
45. Federal Reserve Bank of New York, Federal Reserve Board, Office of the Comptroller of the Currency, Securities and Exchange Commission, U.K. Financial Services Authority, and Japan Financial Services Authority, "Notes on Senior Supervisors' Meetings with Firms," November 19, 2007, p. 3.
46. FCIC staff estimates, based on analysis of Moody's CDO EMS database.
47. Paul, Weiss, Citigroup's counsel, letter to FCIC, March 1, 2010, in re the FCIC's second supplemental request, "Response to Interrogatory no. 7"; Paul, Weiss, letter to FCIC, March 31, 2010, updated response to interrogatory no. 7, p. 5.
48. Nestor Dominguez, interview by FCIC, March 2, 2010; Paul, Weiss, letter of March 31, 2010, pp. 3–6.
49. Board Analyst Profile for Citigroup Inc., April 16, 2007.
50. SEC staff (Sam Forstein, Tim McGarey, Mary Ann Gadziala, Kim Mavis, Bob Sollazo, Suzanne McGovern, and Chris Easter), interview by FCIC, February 9, 2010.
51. Comptroller of the Currency, memorandum, Examination of Citigroup Risk Management (CRM), January 13, 2005, p. 3.
52. Ronald Frake, Comptroller of the Currency, letter to Geoffrey Coley, Citibank, N.A., December 22, 2005.
53. Federal Reserve, "New York Operations Review, May 17–25, 2005," p. 4.
54. Federal Reserve Bank of New York Bank Supervision Group, "Operations Review Report," December 2009.
55. Federal Reserve Bank of New York, "Summary of Supervisory Activity and Findings, Citigroup Inc., January 1, 2005–December 31, 2005," April 10, 2006; Federal Reserve Bank of New York, "Summary of Supervisory Activity and Findings," Citigroup Inc., January 1, 2004–December 31, 2004," April 5, 2005.
56. Citigroup Inc., Form 8-K, April 3, 2006, Exhibit 99.1.
57. Federal Reserve Board, memo to Governor Susan Bies, February 17, 2006.
58. The board reversed a 15% reduction that had been implemented when the issues began and then added a 5% raise. Citigroup, 2006 Proxy Statement, p. 37.
59. Comptroller of the Currency, letter to Citigroup CEO Vikram Pandit (Supervisory Letter 2008-05), February 14, 2008; quotation, p. 2.
60. Federal Reserve Bank of New York, letter to Vikram Pandit and the Board of the Directors of Citigroup, April 15, 2008, pp. 6–7.
61. Timothy Geithner, testimony before the FCIC, Hearing on the Shadow Banking System, day 2, session 1: Perspective on the Shadow Banking System, May 6, 2010, transcript, p. 128.
62. Gene Park, interview by FCIC, May 18, 2010.
63. Andrew Forster, email to Gary Gorton, Alan Frost, et al., July 21, 2005.
64. Park, interview.
65. Gorton, interview.
66. Park, interview.
67. Gene Park, email to Joseph Cassano, February 28, 2006.
68. Park, interview.

69. Data supplied by AIG. The CDO—RFC CDO III Ltd.—was 93% subprime and 7% RMBS Home Equity, according to the AIG credit committee. A review by FCIC staff showed that the remaining 7% designated as RMBS Home Equity included subprime collateral.

70. AIG, “Residential Mortgage Presentation (Financial Figures are as of June 30, 2007),” August 9, 2007, p. 28.

71. Park, interview.

72. Joseph Cassano, interview by FCIC, June 25, 2010.

73. Park, interview.

74. Dow Kim, interview by FCIC, September 9, 2010.

75. Stanley O’Neal, interview by FCIC, September 16, 2010.

76. Kim, interview.

77. FCIC staff estimates based on analysis of Moody’s CDO EMS database.

78. Complaint, *Coöperatieve Centrale Raiffeisen-Boerenleenbank v. Merrill Lynch*, No. 601832/09 (N.Y.S. June 12, 2009), paragraph 147.

79. Kim, interview.

80. FCIC analysis based on Moody’s CDO EMS database.

81. Presentation to Merrill Lynch and Co. Board of Directors, “Leveraged Finance and Mortgage/CDO Review,” October 21, 2007, p. 35.

82. Chau, interview.

83. FCIC staff analysis of Moody’s CDO EMS database.

84. FCIC staff estimates based on Moody’s CDO EMS database. Data supplied by Merrill Lynch. Relevant information not provided for Robeco High Grade CDO I.

85. FCIC staff analysis of Moody’s CDO EMS database.

86. Data supplied by Merrill Lynch.

87. FCIC staff analysis of Moody’s CDO EMS database. The total value of Baa tranches issued by CDOs in the FCIC database was \$684 million in 2003 and \$3.9 billion in 2007; Aa tranches, \$1.4 billion in 2003 and \$8.3 billion in 2007; A tranches, \$522 million in 2003 and \$4.3 billion in 2007.

88. FCIC staff telephone discussion with SEC staff, September 1, 2010.

89. FCIC staff analysis of Moody’s CDO EMS database.

90. Chau, interview; for number of the CDOs he managed, FCIC staff analysis of Moody’s Enhanced CDO Monitoring Database.

91. Super Senior Credit Transactions Principal Collateral Provisions, December 7, 2007, produced by AIG.

92. Presentation to the Merrill Lynch Board, “Leveraged Finance and Mortgage/CDO Review,” p. 23; Jeff Kronthal, former head of Merrill Lynch’s Global Credit, Real Estate and Structured Products, interview by FCIC, September 14, 2010.

93. Al Yoon, “Merrill’s Own Subprime Warnings Unheeded,” Reuters, October 30, 2007.

94. SEC, “Risk Management Reviews of Consolidated Supervised Entities,” internal memo to Erik Sirri and others, February 2, 2007, p. 3.

95. *Ibid.*, p. 1.

96. Yoon, “Merrill’s Own Subprime Warnings Unheeded.”

97. Kim, interview.

98. Senate Permanent Subcommittee on Investigations, *Fishtail, Bacchus, Sundance, and Slapshot: Four Enron Transactions Funded and Facilitated by U.S. Financial Institutions*, 107th Cong., 2nd sess., January 2, 2003, S-Prt 107–82, pp. 36, 37.

99. “Interagency Statement on Sound Practices” (Notice of final interagency statement), January 5, 2007 (see n. 4, above).

100. Office of the Comptroller of the Currency, Treasury; Office of Thrift Supervision, Treasury; Board of Governors of the Federal Reserve System; Federal Deposit Insurance Corporation; and Securities and Exchange Commission, “Interagency Statement on Sound Practices Concerning Complex Structured Finance Activities” (Notice of interagency statement with request for public comments), May 13, 2004.

101. *Ibid.*, pp. 7–8.

102. John C. Dugan, Comptroller of the Currency, written testimony for the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 2, session 2: Office of the Comptroller of the Currency, April 8, 2010, Appendix E: OCC Supervision of Citibank, N.A., p. 10.
103. "Interagency Statement on Sound Practices" (Notice of final interagency statement), January 5, 2007, p. 6.
104. Basel Committee on Banking Supervision: Joint Forum, "Credit Risk Transfer," Bank for International Settlements, March 2005, pp. 3-4, 6-7, 5-10.
105. *Ibid.*, p. 4.
106. *Ibid.*
107. *Ibid.*, pp. 3-4.
108. SEC, Office of Compliance Inspections and Examinations, "Examination Report to Moody's Investor Services, Inc.," p. 4 (examination begun August 31, 2007).
109. Warren Buffett, testimony before the FCIC, Hearing on the Credibility of Credit Ratings, the Investment Decisions Made Based on Those Ratings, and the Financial Crisis, session 2: Credit Ratings and the Financial Crisis, June 2, 2010, transcript, p. 301.
110. Warren Buffett, interview by FCIC, May 26, 2010; Buffett, testimony before the FCIC, June 2, 2010, transcript, p. 302.
111. Eric Kolchinsky, written testimony for the FCIC, Hearing on the Credibility of Credit Ratings, the Investment Decisions Made Based on Those Ratings, and the Financial Crisis, session 1: The Ratings Process, June 2, 2010, p. 2.
112. Brian Clarkson, interview by FCIC, May 20, 2010.
113. Gary Witt, interview by FCIC, April 21, 2010. John Rutherford was the president and CEO of Moody's Corporation from the time of its spin-off from Dun & Bradstreet in 2000 until he retired from the firm in 2005.
114. Jerome Fons, interview by FCIC, April 22, 2010.
115. Raymond McDaniel, interview by FCIC, May 21, 2010.
116. Clarkson, interview.
117. *Ibid.*
118. McDaniel, interview.
119. Raymond McDaniel, testimony before the FCIC, Hearing on the Credibility of Credit Ratings, the Investment Decisions Made Based on Those Ratings, and the Financial Crisis, session 2: Credit Ratings and the Financial Crisis, June 2, 2010, transcript, pp. 203-4.
120. Scott McCleskey, interview by FCIC, April 16, 2010.
121. Clarkson, interview.
122. Witt, interview.
123. Mark Froeba, testimony before the FCIC, Hearing on the Credibility of Credit Ratings, the Investment Decisions Made Based on Those Ratings, and the Financial Crisis, session 3: The Credit Rating Agency Business Model, June 2, 2010, transcript, p. 347.
124. Clarkson, interview; McDaniel, interview.
125. Witt, interview; Gary Witt, testimony before the FCIC, Hearing on the Credibility of Credit Ratings, the Investment Decisions Made Based on those Ratings, and the Financial Crisis, Session 3: The Credit Rating Agency Business Model, June 2, 2010, transcript, p. 394.
126. Brian Clarkson, email to Ed Bankole, Pramila Gupta, Michael Kanef, Andrew Kriegler, Sam Pilcer, Andrew Silver, and Linda Stesney, subject: "June YTD AFG by analyst.xls," July 5, 2001.
127. William May, email to Gus Harris, subject: "RE: BES and PEs," January 12, 2006.
128. Yuri Yoshizawa, email to direct report managing directors, subject: "3Q Market Coverage-CDO," October 5, 2007.
129. Clarkson, interview.
130. McDaniel, interview.
131. Witt, testimony before the FCIC, June 2, 2010, transcript, pp. 456-57.
132. Moody's Investors Service: Managing Director's Town Hall Meeting, September 11, 2007, transcript, pp. 42, 51-52.
133. Witt, interview.

134. Andrew Kimball, internal email, October 21, 2007, attaching memorandum, “Credit policy issues at Moody’s suggested by the subprime/liquidity crisis.” The susceptibility of a ratings committee to external pressures was shown in the constant proportion debt obligation (CPDO) scandal in Europe.
135. *Ibid.*, p. 3.
136. David Teicher, project manager at Moody’s, interview by FCIC, May 4, 2010; Standard & Poor’s, “Credit FAQ: The Basics of Credit Enhancement in Securitizations,” RatingsDirect, June 24, 2008.
137. Richard Michalek, testimony before the FCIC, Hearing on the Credibility of Credit Ratings, the Investment Decisions Made Based on Those Ratings, and the Financial Crisis, session 3: The Credit Rating Agency Business Model, June 2, 2010, transcript, p. 361.
138. Witt, interview.
139. Clarkson, interview.
140. Fons, interview.
141. Kimball, memorandum, “Credit policy issues at Moody’s,” p. 1.
142. Eric Kolchinsky, testimony before the FCIC, Hearing on the Credibility of Credit Ratings, the Investment Decisions Made Based on Those Ratings, and the Financial Crisis, session 1: The Ratings Process, June 2, 2010, transcript, pp. 68–69.
143. E Kolchinsky, email to Y Fu and Y Yoshizawa, May 30, 2005.
144. Kolchinsky, testimony before the FCIC, June 2, 2010, transcript, pp. 68–69.
145. Eric Kolchinsky, interview by FCIC, April 14, 2010.
146. FCIC staff estimates, based on analysis of Moody’s SFDRS database.
147. Riachra O’Driscoll, email to Yuri Yoshizawa, subject: “Magnolia 2006–5 Class Ds,” April 27, 2006.
148. Kimball, memorandum, “Credit policy issues at Moody’s,” p. 2.
149. SEC, Office of Compliance Inspections and Examinations, “Examination Report for Moody’s Investors Services, Inc.,” p. 2.

### Chapter 11

1. William Dudley, interview by FCIC, October 15, 2010.
2. Inside Mortgage Finance, *The 2009 Mortgage Market Statistical Annual*, vol. 2, *The Secondary Market* (Bethesda, Md.: Inside Mortgage Finance, 2009), p. 13, “Non-Agency MBS Issuance by Type.”
3. FCIC staff estimates based on Moody’s CDO Enhanced Monitoring System (EMS) database.
4. *2009 Mortgage Market Statistical Annual*, 2:373, “Commercial MBS Issuance.”
5. Ben S. Bernanke, chairman of the Federal Reserve, letter to Phil Angelides, chairman of the FCIC, December 21, 2010.
6. Mark Zandi, Celia Chen, and Brian Carey, “Housing at the Tipping Point,” Moody’s Economy.com, October 2006, pp. 6–7.
7. CoreLogic Home Price Index, Single-Family Combined (available at [www.corelogic.com/Products/CoreLogic-HPI.aspx](http://www.corelogic.com/Products/CoreLogic-HPI.aspx)), FCIC staff calculations, January to January.
8. CoreLogic Census Bureau Statistical Area (CBSA) Home Price Index, FCIC staff calculations.
9. Data provided by Mark Fleming, chief economist for CoreLogic, in his written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Sacramento, session 1: Overview of the Sacramento Housing and Mortgage Markets and the Impact of the Financial Crisis on the Region, September 9, 2010, figures 4, 5.
10. Mark Fleming, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Sacramento, session 1: Overview of the Sacramento Housing and Mortgage Markets and the Impact of the Financial Crisis on the Region, September 9, 2010, transcript, p. 14.
11. Mortgage Bankers Association, National Delinquency Survey, data provided to the FCIC.
12. *Ibid.*, with FCIC staff calculations.
13. FCIC staff analysis, “Analysis of housing data,” July 7, 2010. The underlying data come from CoreLogic and Loan Processing Svcs. Tabulations were provided to the FCIC by staff at the Federal Reserve.
14. Subprime and Alt-A mortgages are defined as those included in subprime or Alt-A securitizations, respectively. GSE mortgages included mortgages purchased or guaranteed by Fannie Mae or Freddie Mac. FHA mortgages included mortgages insured by the FHA or VA.
15. FCIC staff analysis.

16. A recent analysis published by FHFA comes to very similar conclusions. See “Data on the Risk Characteristics and Performance of Single-Family Mortgages Originated from 2001 through 2008 and Financed in the Secondary Market,” September 13, 2010.

17. FCIC staff analysis, “Analysis of housing data and comparison with Ed Pinto’s analysis,” August 9, 2010. In the sample data provided by the Federal Reserve, Fannie Mae and Freddie Mac mortgages with a FICO score below 660 had an average rate of serious delinquency of 6.2% in 2008. In public reports, the GSEs stated that the average serious delinquency rates for loans with FICO scores less than 660 in their guarantee books was 6.3%. Fannie Mae 2008 Credit Supplement, p. 5; Freddie Mac Fourth Quarter 2008 Financial Results Supplement, March 11, 2009, p. 15.

18. In the sample data provided by the Federal Reserve, Fannie Mae and Freddie Mac mortgages with LTVs above 90% had an average rate of serious delinquency of 5.7% in 2008. In public reports, the GSEs stated that the average serious delinquency rates for loans with LTVs above 90% in their guarantee books was 5.8%. Fannie Mae 2008 Credit Supplement, p. 5;

Freddie Mac Fourth Quarter 2008 Financial Results Supplement, March 11, 2009, p. 15.

19. Edward Pinto, “Memorandum: Sizing Total Federal Government and Federal Agency Contributions to Subprime and Alt-A Loans in U.S. First Mortgage Market as of 6.30.08,” Exhibit 2 with corrections through October 11, 2010 ([www.aei.org/docLib/PintoFCICTriggersMemo.pdf](http://www.aei.org/docLib/PintoFCICTriggersMemo.pdf)). The 26.7 million loans include 6.7 million loans in subprime securitizations and another 2.1 million loans in Alt-A securitizations, for a total of 8.8 million mortgages in subprime or Alt-A pools, which Pinto calls “self-denominated” subprime and Alt-A, respectively. To these, he adds another 8.8 million loans with FICO scores below 660, which he labels “subprime by characteristic.” He also adds 6.3 million loans at the GSEs that are either interest-only loans, negative amortization loans, or loans with an LTV—including any second mortgage—greater than 90%, which he collectively refers to as “Alt-A by characteristic.” The last additions include an estimated 1.4 million loans insured by the FHA and VA with an LTV greater than 90%—out of a total of roughly 5.5 million FHA and VA loans—and 1.3 million loans in bank portfolios that are inferred to have his defined “Alt-A characteristics.”

20. Fannie Mae 2008 Credit Supplement, p. 5; Freddie Mac Fourth Quarter 2008 Financial Results Supplement, March 11, 2009.

21. Edward Pinto, “Yes, the CRA Is Toxic,” *City Journal*, Autumn 2009.

22. Neil Bhutta and Glenn Canner, “Did the CRA Cause the Mortgage Market Meltdown?” Federal Reserve Board of Governors, March 2009. The authors use the Home Mortgage Disclosure Act data, which cover roughly 80% of the mortgage market in the United States—see Robert B. Avery, Kenneth P. Brevoort, and Glenn B. Canner, “Opportunities and Issues in Using HMDA Data,” *Journal of Real Estate Research* 29, no. 4 (October 2007): 351–79.

23. Elizabeth Laderman and Carolina Reid, “Lending in low and moderate income neighborhoods in California: The Performance of CRA Lending During the Subprime Meltdown,” November 26, 2008, working paper to be presented at the Federal Reserve System Conference on Housing and Mortgage Markets, Washington, DC, December 4, 2008.

24. FCIC, “Preliminary Staff Report: The Mortgage Crisis,” April 7, 2010.

25. Bank of America response letter to FCIC, August 20, 2010.

26. John Reed, interview by FCIC, March 4, 2010.

27. Lewis Ranieri, interview by FCIC, July 30, 2010.

28. Nicolas Weill, interview by FCIC, May 11, 2010.

29. *Ibid.*

30. Nicolas Weill, email to Raymond McDaniel and Brian Clarkson, July 4, 2007.

31. Moody’s Investors Service, “Early Defaults Rise in Mortgage Securitizations,” *Structured Finance: Special Report*, January 18, 2007, pp. 1, 3.

32. Moody’s Investors Service, “Moody’s Downgrades Subprime First-lien RMBS-Global Credit Research Announcement,” July 10, 2007.

33. Weill, interview.

34. FCIC staff estimates, based on analysis of Blackbox data.

35. Data on Bear Stearns provided by JP Morgan to the FCIC.



36. Moody's Investors Service, "Moody's Downgrades \$33.4 billion of 2006 Subprime First-Lien RMBS and Affirms \$280 billion Aaa's and Aa's," October 11, 2007; "October 11 Rating Actions Related to 2006 Subprime First-Lien RMBS," Structured Finance: Special Report, October 17, 2007, pp. 1–2.
37. FCIC staff estimates, based on analysis of Blackbox data.
38. FCIC staff estimates, based on analysis of Moody's SFDRS data as of April 2010.
39. Moody's Investors Service, "The Impact of Subprime Residential Mortgage-Backed Securities on Moody's-Rated Structured Finance CDOs: A Preliminary Review," Structured Finance: Special Comment, March 23, 2007, p. 2.
40. Yuri Yoshizawa, email to Noel Kirnon and Raymond McDaniel, cc Eric Kolchinsky, subject: "CSFB Pipeline information," March 28, 2007.
41. Moody's Investors Service, "First Quarter 2007 U.S. CDO Review: Climbing the Wall of Subprime Worry," Structured Finance: Special Report, May 31, 2007, p. 2.
42. Richard Michalek, testimony before the FCIC, Hearing on the Credibility of Credit Ratings, the Investment Decisions Made Based on Those Ratings, and the Financial Crisis, session 3: The Credit Rating Agency Business Model, June 2, 2010, transcript, pp. 448–49.
43. "2007 MCO Strategic Plan Overview," presentation by Ray McDaniel, July 2007.
44. Eric Kolchinsky—retaliation complaint, Chronology Prepared by Eric Kolchinsky.
45. FCIC staff estimates based on analysis of Moody's SFDRS; FCIC, "Preliminary Staff Report: Credit Ratings and the Financial Crisis," June 2, 2010.
46. Eric Kolchinsky, interview by FCIC, April 27, 2010. 4838–2303–6167 (checked–BLK); Kolchinsky—retaliation complaint.
47. Eric Kolchinsky—retaliation complaint.
48. FCIC, "PSR: Credit Ratings and the Financial Crisis," pp. 30–33.
49. Bingham McCutchen, Fannie Mae counsel, letter to FCIC, September 21, 2010 (hereafter "Bingham Letter"); O'Melveny & Meyers LLP, Freddie Mac counsel, letter to FCIC, September 21, 2010 (hereafter "O'Melveny Letter").
50. Federal Housing Finance Agency, "Conservator's Report on the Enterprises' Financial Performance: Third Quarter 2010," tables 3.1 and 4.1.
51. Raymond Romano, interview by FCIC, September 14, 2010; Bingham Letter.
52. Bingham Letter.
53. Bingham Letter, Tab 3; Tab 1, "Repurchase Collections by Top Ten Sellers/Serviceers."
54. O'Melveny letter.
55. "Bank of America announces fourth-quarter actions with respect to its home loans and insurance business," Bank of America press release, January 3, 2011.
56. Mortgage Insurance Companies of America, *2009–2010 Fact Book and Member Directory*, Exhibit 3: Primary Insurance Activity (Insurance in Force) p 17.
57. Documents produced for the FCIC by United Guaranty Residential Insurance, MGIC, Genworth, RMIC, Triad, PMI, and Radian.
58. FCIC staff calculations based on productions from Fannie and Freddie. Figures are for Alt-A, option ARM Alt-A, and subprime loans.
59. FHFA, "Conservator's Report: Third Quarter 2010." Accounting changes for impairments have resulted in offsetting gains of \$8 billion.
60. "FHFA Issue Subpoenas for PLS Documents," Federal Housing Finance Agency news release, July 12, 2010.
61. Covington & Burling LLP, Freddie Mac counsel, letter to FCIC, October 19, 2010; see O'Melveny & Meyers LLP, letter to FCIC, dated October 19, 2010.
62. NERA Economic Consulting, "Credit Crisis Litigation Revisited: Litigating the Alphabet of Structured Products," Part VII of a NERA Insights Series, June 4, 2010, p. 1.
63. Defendants Wells Fargo Asset Securities Corp. and Wells Fargo Bank, N.A.'s Notice of Removal, Charles Schwab Corp. v. BNP Paribas Securities Corp, et al., No. cv-10-4030 (N.D. Cal. September 8, 2010).

64. Attorney General of Massachusetts, “Attorney General Martha Coakley and Goldman Sachs Reach Settlement Regarding Subprime Lending Issues,” May 11, 2009; “Morgan Stanley to Pay \$102 Million for Role in Massachusetts Subprime Mortgage Meltdown under Settlement with AG Coakley’s Office,” June 24, 2010.

65. Complaint, *Cambridge Place v. Morgan Stanley et al.*, No. 10-2741 (Mass. Super. Ct. filed July 9, 2010), p. 28.

66. Sarah Johnson, “How Far Can Fair Value Go?” *CFO.com*, May 6, 2008.

67. Vikas Shilpiekandula and Olga Gorodetsky, “Who Owns Residential Credit Risk?” Lehman Brothers Fixed Income, U.S. Securitized Products Research, September 7, 2007.

68. Moody’s Investor Service, “Default & Loss Rates of Structured Finance Securities: 1993–2009,” Special Comment, September 23, 2010.

69. Ben Bernanke, closed-door session with the FCIC, November 17, 2009.

70. Vikas Shilpiekandula and Olga Gorodetsky, “Who Owns Residential Credit Risk?,” September 7, 2007, p. 1. The Lehman analysts pegged ultimate subprime and Alt-A losses at \$200 billion. Those forecasts were based, the analysts said, on a scenario in which house prices fell an average of 30% across the country. For the securitization figures, see Inside Mortgage Finance, *The 2009 Mortgage Market Statistical Annual*, vol. 2, *The Secondary Market*.

71. IMF, “Financial Stress and Deleveraging: Macro-Financial Implications and Policy,” *Global Financial Stability Report*, October 2008, p. 78; IMF, “Containing Systemic Risks and Restoring Financial Soundness,” *Global Financial Stability Report*, April 2008.

72. FCIC staff estimates, based on Moody’s Investor Service, “Default & Loss Rates of Structured Finance Securities: 1993–2009,” Special Comment, September 23, 2010, and analysis of Moody’s Structured Finance Default Risk Service.

73. Ben Bernanke, testimony before the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 2, session 1: The Federal Reserve, September 2, 2010, transcript, p. 54.

## Chapter 12

1. FCIC staff calculations using data in worksheets Markit ABX.HE. 06-1 prices and ABX.HE. 06-2 prices, produced by Markit; Nomura Fixed Income Research, *CDO/CDS Update 12/18/06*. The figures refer to the BBB- index of the ABX.HE. 06-2.

2. Nomura Fixed Income Research, *CDO/CDS Update 12/18/06*, p. 2.

3. SEC, “Risk Management Reviews of Consolidated Supervised Entities,” internal memo to Erik Sirri and others, January 4, 2007.

4. Jim Chanos, interview by FCIC, October 5, 2010.

5. SEC, “Risk Management Reviews of Consolidated Supervised Entities,” memo, January 4, 2007.

6. Fed Chairman Ben S. Bernanke, “The Economic Outlook,” testimony before the Joint Economic Committee, U.S. Congress, 110th Cong., 1st sess., March 28, 2007.

7. Henry Paulson, quoted in Julie Haviv, “Bernanke Allays Subprime Fears as Beazer Faces Probe,” Reuters, March 28, 2007.

8. David Viniar, written testimony, *Wall Street and the Financial Crisis: The Role of Investment Banks*, Senate Permanent Subcommittee on Investigation, 111th Cong., 2nd sess., April 27, 2010, pp. 3–4.

9. Michael Diniias, email to David Viniar and Craig Broderick, December 13, 2006, Senate Permanent Subcommittee on Investigations, Exhibit 2.

10. Viniar, written testimony, Permanent Subcommittee on Investigation, pp. 3–4; Daniel Sparks, email to Tom Montag and Richard Ruzika, December 14, 2006, Senate Permanent Subcommittee on Investigations, Exhibit 3.

11. Kevin Gasvoda, email to Genevieve Nestor and others, December 14, 2006, Senate Permanent Subcommittee on Investigations, Exhibit 72.

12. David Viniar, email to Tom Montag, December 15, 2006, Senate Permanent Subcommittee on Investigations, Exhibit 3.

13. Stacy Bash-Polley, email to Michael Swenson and others, December 20, 2006, Senate Permanent Subcommittee on Investigations, Exhibit 151.

14. Tetsuya Ishikawa, email to Darryl Herrick, October 11, 2006, Senate Permanent Subcommittee on Investigations, Exhibit 170c; Geoffrey Williams, email to Ficc-Mtgcorr-desk, October 24, 2006, Senate Permanent Subcommittee on Investigations, Exhibit 170d.

15. Fabrice Tourre, email to Jonathan Egol and others, December 28, 2006, Senate Permanent Subcommittee on Investigations, Exhibit 61.

16. Daniel Sparks, email to Tom Montag, January 31, 2007, Senate Permanent Subcommittee on Investigations, Exhibit 91.

17. Fabrice Tourre, email to Marine Serres, January 23, 2007, Senate Permanent Subcommittee on Investigations, Exhibit 62.

18. Lloyd Blankfein, email to Tom Montag, February 11, 2007, Senate Permanent Subcommittee on Investigations, Exhibit 130.

19. FCIC calculations using data from “2004–2007 GS Synthetic CDOs,” produced by Goldman Sachs.

20. Gretchen Morgenson and Louise Story, “Banks Bundled Bad Debt, Bet Against It and Won,” *New York Times*, December 24, 2009.

21. Lloyd Blankfein, testimony before the FCIC, First Public Hearing of the FCIC, first day, panel 1: Financial Institution Representatives, January 13, 2010, transcript, pp. 26–27.

22. “Goldman Sachs Clarifies Various Media Reports of Aspect of FCIC Hearing,” Goldman Sachs press release, January 14, 2010.

23. Gary Cohn, testimony before the FCIC, Hearing on the Role of Derivatives in the Financial Crisis, day 1, session 3: Goldman Sachs Group, Inc. and Derivatives, June 30, 2010, transcript, p. 267.

24. Michael Swenson, opening statement, *Hearing on Wall Street and the Financial Crisis: The Role of Investment Banks*, Senate Permanent Subcommittee on Investigations, pp. 2–3.

25. Complaint, *Basis Yield Alpha Fund v. Goldman Sachs Group, Inc., et al.* (S.D.N.Y. June 9, 2010), p. 29.

26. Blankfein, testimony before the FCIC, January 13, 2010, transcript, p. 140.

27. Craig Broderick, written testimony for the FCIC, Hearing on the Role of Derivatives in the Financial Crisis, day 1, session 3: Goldman Sachs Group, Inc. and Derivatives, June 30, 2010, p. 1.

28. Craig Broderick, email to Alan Rapfogel and others, May 11, 2007, Senate Permanent Subcommittee on Investigations, Exhibit 84.

29. High Grade Risk Analysis, April 27, 2007, p. 4; High Grade—Enhanced Leverage Q&A, June 13, 2007, stating “the percentage of underlying collateral in our investment grade structures collateralized by “sub-prime” mortgages is approximately 60. On the March 12, 2007, investor call, Matthew Tannin told investors that “most of the CDOs that we purchased are backed in some form by subprime” (Conference Call transcript, pp. 21–22).

30. Email from matt.tannin@gmail.com to matt.tannin@gmail.com, November 23, 2006.

31. Matthew Tannin, Bear Stearns, email to Chavanne Klaus, MEAG New York, March 7, 2007.

32. BSAM Conference Call, April 25, 2007, transcript, p. 5.

33. Matt Tannin, Bear Stearns, email to Klaus Chavanne, MEAG New York, March 7, 2007; Matthew Tannin, email to Steven Van Solkema, March 30, 2007; Complaint, *SEC v. Cioffi*, No. 08 Civ. 2457 (E.D.N.Y. June 19, 2008), p. 32.

34. Jim Crystal, Bear Stearns, email to Ralph Cioffi (and others), March 22, 2007; Ralph Cioffi, Bear Stearns, email to Ken Mak, Bear Stearns, March 23, 2007.

35. Warren Spector, testimony before the FCIC, Hearing on the Shadow Banking System, day 1, session 1: Investment Banks and the Shadow Banking System, May 5, 2010, transcript, pp. 83–84.

36. Information provided to FCIC by legal counsel to Bank of America, September 28, 2010.

37. *Ibid.*

38. Alan Schwartz, interview by FCIC, April 23, 2010. Notably, as one of only two tri-party repo clearing banks, JP Morgan had more information about BSAM’s lending obligations than did most other market participants or regulators. As discussed in greater detail later in this chapter, this superior market knowledge later put JP Morgan in a position to step in and purchase Bear Stearns virtually overnight.

39. Email from Goldman to Bear, April 2, 2007.

40. Steven Van Solkema, Bear Stearns, internal email, Summary of CDO Analysis Using Credit Model, April 19, 2007.

41. Matt Tannin, Bear Stearns, email from Gmail account to Ralph Cioffi, Bear Stearns, at his Hotmail account, April 22, 2007.
42. BSAM Conference Call, April 25, 2007, transcript.
43. Iris Semic, email to Matthew Tannin et al., May 1, 2007.
44. Robert Ervin, email to Ralph Cioffi et al., May 1, 2007; email from Goldman (ficc-ops-cdopricing) to rervin@bear.com, May 1, 2007.
45. BSAM Pricing Committee minutes, June 5, 2007; Robert Ervin, email to Greg Quental et al., May 10, 2007, showing that losses for the High Grade fund would be 7.02% if BSAM used the prices Lehman's repo desk was using, rather than 11.45%—the loss without Lehman's marks.
46. Email from "BSAM Hedge Fund Product Management (Generic)," May 16, 2007, produced by JP Morgan.
47. BSAMFCIC-e0000013. An untitled chart produced by JPMorgan shows losses would have been over \$50 million less; NAV estimate reconciliation chart, produced by JPMorgan, shows losses would have been almost \$25 million less.
48. BSAM Pricing Committee minutes, June 4, 2007.
49. Ralph Cioffi, interview by FCIC, October 19, 2010.
50. Ralph Cioffi, email to John Geissinger, June 6, 2007.
51. Schwartz, interview.
52. *Ibid.*
53. *Ibid.*; CSE Program Memorandum to Erik Sirri and others through Matthew Eichner, July 5, 2007.
54. CSE Program Memorandum, July 5, 2007.
55. CSE Program Memorandum, July 5, 2007; Merrill Lynch analysis, "Bear Stearns Asset Mgm't: What Went Wrong"; Paul Friedman, interview by FCIC, April 28, 2010. While most of the Bear Stearns executives interviewed by FCIC staff did not recall the percentage discount at which the collateral seized by Merrill Lynch was auctioned, they did believe that it was significant (e.g., Robert Upton, interview by FCIC, April 13, 2010).
56. "While the High Grade fund was not in default/had not missed any margin calls, creditors were cutting off its liquidity by increasing haircuts or not rolling repo facilities." Bear Stearns Packet dated May 30, meeting held on June 20, produced by the Securities and Exchange Commission, p. 3; Upton, interview.
57. Warren Spector, email to Mary Kay Scucci, April 26, 2007.
58. Friedman, interview; Warren Spector, interview by FCIC, March 30, 2010; Sam Molinaro, interview by FCIC, April 9, 2010.
59. Thomas Marano, interview by FCIC, April 19, 2010; Spector, interview (on Marano's being sent to Marin).
60. Fed Chairman Ben S. Bernanke, letter to FCIC Chairman Phil Angelides, December 21, 2010.
61. James Cayne, interview by FCIC, April 21, 2010.
62. SEC, "Risk Management Reviews of Consolidated Supervised Entities," memo to Erik Sirri and others, August 3, 2007, p. 2; SEC, "Risk Management Reviews of Consolidated Supervised Entities," memo to Erik Sirri and others, July 5, 2007, p. 3, both produced by SEC.
63. Marano, interview.
64. Bill Jamison, internal email, June 21, 2007, produced by Federated.
65. JPMorgan, Directors Risk Policy Committee, "Worldwide Securities Services Risk Review," September 18, 2007; Michael Alix, interview by FCIC, April 8, 2010.
66. For the downgrades, see Moody's Investor Service, "Announcement: Moody's Downgrades Subprime First-Lien RMBS," July 10, 2007; Standard & Poor's, "S&P Correct: 612 U.S. Subprime RMBS Classes Put on Watch Neg; Methodology Revisions Announced," July 11, 2007; Standard & Poor's, "Various U.S. First-Lien Subprime RMBS Classes Downgraded," July 12, 2007, p. 2; Glenn Costello, "U.S. Subprime Rating Surveillance Update," Fitch Ratings, July 2007.
67. FCIC, "Preliminary Staff Report: Credit Ratings and the Financial Crisis," June 2, 2010, p. 29.
68. Steven Eisman and Tom Warrack, Standard & Poor's Structured Finance, July 10, 2007, teleconference, transcript, p. 16.
69. Andrew Forster, telephone conversation, July 11, 2007, transcript, pp. 3–5.

70. Martin Sullivan, interview by FCIC, June 17, 2010; Steve Bensinger, interview by FCIC, June 16, 2010; Robert Lewis, interview by FCIC, June 15, 2010; Kevin McGinn, interview by FCIC, June 10, 2010; Andrew Forster, Elias Habayeb, and Steve Bensinger, testimony before the FCIC, Hearing on the Role of Derivatives in the Financial Crisis, day 2, session 1: American International Group, Inc. and Goldman Sachs Group, Inc., July 1, 2010, transcript, pp. 11, 61–62.

71. Clarence K. Lee, former managing director for Complex and International Organizations, Office of Thrift Supervision, testimony before the FCIC, Hearing on the Role of Derivatives in the Financial Crisis, day 2, session 2: Derivatives: Supervisors and Regulators, July 1, 2010, transcript, pp. 232–35.

72. Alan Frost, interview by FCIC, May 11, 2010.

73. Joseph Cassano, interview by FCIC, June 25, 2010.

74. “Information Pertaining to the Multi-Sector CDS Portfolio,” produced by AIG, with FCIC staff calculations.

75. Andrew Davilman, email to Alan Frost, subject: “Sorry to bother you on”; Frost, email to Davilman, subject: “Re: Sorry to bother you on”; Davilman, email to Frost, subject: “Re: Sorry to bother you on”—all July 26, 2007.

76. Goldman Sachs International, Collateral Invoice to AIG Financial Products Corp., July 27, 2007, produced by Goldman Sachs.

77. AIG hedges, January 2006–December 2008, produced by Goldman Sachs.

78. Andrew Forster, interview by FCIC, June 23, 2010.

79. Daniel Sparks, interview by FCIC, May 11, 2010.

80. “Valuation & Pricing Related to Initial Collateral Calls on Transactions with AIG,” produced by Goldman Sachs.

81. Jon Liebergall and Andrew Forster, telephone conversation, July 30, 2007, transcript, pp. 402–4.

82. David Viniar, written testimony for the FCIC, Hearing on the Role of Derivatives in the Financial Crisis, day 2, session 1: American International Group, Inc. and Goldman Sachs Group, Inc., July 1, 2010, p. 2.

83. Liebergall and Forster, telephone conversation, July 30, 2007, transcript, p. 407.

84. Tom Athan, email to Andrew Forster, August 1, 2007.

### Chapter 13

1. Henry Paulson, quoted in Kevin Carmichael and Peter Cook, “Paulson Says Subprime Rout Doesn’t Threaten Economy,” *Bloomberg*, July 26, 2007.

2. Moody’s Investors Service, “Moody’s ABCP Program Index: CP Outstanding as of 06/30/2007.”

3. Moody’s Investors Service, “Moody’s Performance Overview: Rhineland Funding Capital Corporation,” June 30, 2007.

4. As noted, in the United States, there was a minimal capital charge for liquidity puts equal to 10% of the base 8%, or 0.8%. Staff of Bundesanstalt für Finanzdienstleistungsaufsicht (the Federal Financial Services Supervisory Authority, Germany’s bank regulators), interview by FCIC, September 8, 2010. See also Office of the Comptroller of the Currency, “Interagency Guidance on the Eligibility of Asset-Backed Commercial Paper Liquidity Facilities and the Resulting Risk-Based Capital Treatment,” August 4, 2005. For example, Citigroup would have held \$200 million in capital against potential losses on the \$25 billion in liquidity put exposure that it had accumulated on CDOs it had issued.

5. IKB, 2006/2007 Annual Report, June 28, 2007, p. 78.

6. Securities Fraud Complaint, Securities and Exchange Commission v. Goldman Sachs & Co. and Fabrice Tourre, no. 10-CV-3229 (S.D.N.Y. April 15, 2010), p. 6.

7. IKB staff, interview by FCIC, August 27, 2010; Securities and Exchange Commission (plaintiff) v. Goldman Sachs & Co. and Fabrice Tourre (defendants), Securities Fraud Complaint, 10-CV-3229, United States District Court, Southern District of New York, April 15, 2010, at 17, paragraph 58.

8. “Preliminary results for the first quarter (1 April–30 June 2007),” IKB press release, July 20, 2007.

9. IKB staff, interview; IKB, clarification of interview by FCIC, November 15, 2010; IKB, restated 2006/2007 Annual Report, p. 5.

10. Steven Meier, testimony before the FCIC, Hearing on the Shadow Banking System, day 2, session 3: Institutions Participating in the Shadow Banking System, May 6, 2010, transcript, p. 307.

11. Angelo Mozilo, testimony taken by the SEC in the matter of Countrywide Financial Corp., File No. LA-03370-A, November 9, 2007, pp. 150, 36–37.
12. Angelo Mozilo, email to Lyle Gramley, member of Board of Countrywide Financial Corporation (cc Michael Perry, chief executive officer, IndyMac Bank), August 1, 2007.
13. Eric Sieracki, quoted in Mark DeCambre, “Countrywide Defends Liquidity,” *TheStreet.com*, August 2, 2007.
14. “Minutes of a Special Telephonic Meeting of the Board of Directors of Countrywide Financial Corporation,” August 6, 2007, pp. 1, 2, 1.
15. Fed Chairman Ben Bernanke, letter to FCIC Chairman Phil Angelides, December 21, 2010.
16. Federal Reserve Staff, memo to Board of Governors of the Federal Reserve System, “Background on Countrywide Financial Corporation,” August 14, 2007, pp. 1–2.
17. *Ibid.*, pp. 12–13.
18. Countrywide Financial Corporation, Form 8-K, Exhibit 99.1, filed August 6, 2007. See also “Minutes of a Special Telephonic Meeting of the Boards of Directors of Countrywide Financial Corporation and Countrywide Bank, FSB,” August 15, 2007.
19. Angelo Mozilo, interview by FCIC, September 24, 2010.
20. Kenneth Bruce, “Liquidity Is the Achilles Heel,” Merrill Lynch Analyst Report, August 15, 2007, p. 4; Kenneth Bruce, “Attractive Upside, but Not without Risk,” Merrill Lynch Analyst Report, August 13, 2007, p. 4.
21. Mozilo, interview; the article, by E. Scott Reckard and Annette Haddad, was titled “Credit Crunch Imperils Lender: Worries Grow about Countrywide’s Ability to Borrow—and Even a Possible Bankruptcy.”
22. Angelo Mozilo, quoted in “One on One with Angelo Mozilo, Chairman and CEO of Countrywide Financial,” *Nightly Business Report*, PBS, August 23, 2007, transcript; and in “CEO Exclusive: Countrywide CEO, Pt. 1,” *The Call*, CNBC, interview by Maria Bartiromo, August 23, 2007, transcript, p. 1.
23. Sebastian Boyd, “BNP Paribas Freezes Funds as Loan Losses Roil Markets,” *Bloomberg*, August 9, 2007.
24. “BNP Paribas Investment Partners Temporally [*sic*] Suspends the Calculation of the Net Asset Value of the following funds: Parvest Dynamic ABS, BNP Paribas ABS EURIBOR and BNP Paribas ABS EONIA,” BNP Paribas press release, August 9, 2007.
25. Paul A. McCulley, testimony before the FCIC, Hearing on the Shadow Banking System, day 2, session 3: Institutions Participating in the Shadow Banking System, May 6, 2010, pp. 237, 309.
26. Daniel M. Covitz, Nellie Liang, and Gustavo A. Suarez, “The Evolution of a Financial Crisis: Panic in the Asset-Backed Commercial Paper Market,” August 24, 2009, p. 39.
27. *Ibid.*, figure 1, panel B, p. 33.
28. “The Federal Reserve Is Providing Liquidity to Facilitate the Orderly Functioning of Financial Markets,” Federal Reserve Board press release, August 10, 2007.
29. Federal Reserve Board, press release, August 17, 2007.
30. Henry Tabe, Moody’s Investors Service, “SIVs: An Oasis of Calm in the Sub-prime Maelstrom: Structured Investment Vehicles,” *International Structured Finance: Special Report*, July 20, 2007, p. 1.
31. *Ibid.*
32. Henry Tabe, interview by FCIC, October 4, 2010.
33. Moody’s Investors Service, “From Illiquidity to Liquidity: The Path Toward Credit Market Normalization,” *Moody’s International Policy Perspectives*, September 5, 2007, p. 1.
34. Tabe, interview.
35. Moody’s Investors Service, “Moody’s Update on Structured Investment Vehicles,” *Moody’s Special Report*, January 16, 2008, p. 12.
36. Information provided to the FCIC by Deloitte LLP’s counsel, August 2, 2010.
37. Moody’s Rating Action, “Sigma Finance,” September 30, 2008; Henry Tabe, *The Unravelling of Structured Investment Vehicles: How Liquidity Leaked through SIVs: Lessons in Risk Management and Regulatory Oversight* ([Chatham, Kent]: Thoth Capital, 2010), p. 60.
38. The SEC indicated it is aware of at least 44 money market funds that were supported by affiliates because of SIV investments. See Securities and Exchange Commission, “Money Fund Reform” (Proposed rule), June 20, 2009, p. 14 n. 38.



39. Christopher Condon and Rachel Layne, “GE Bond Fund Investors Cash Out After Losses from Subprime,” *Bloomberg*, November 15, 2007.

40. The identity of the investor has never been publicly disclosed. See Shannon D. Harrington and Sree Vidya Bhaktavatsalam, “Bank of America to Liquidate \$12 Billion Cash Fund,” *Bloomberg*, December 10, 2007. See also Michael M. Grynbaum, “Mortgage Crisis Forces the Closing of a Fund,” *New York Times*, December 11, 2007.

41. Rich Rokus, portfolio manager at Marshall Money Market Funds, interview by Crane Data, *Money Fund Intelligence*, June 2009; Crane Data, *Money Fund Intelligence*, January 2008.

42. Credit Suisse Institutional Money Market Fund, Inc., Notes to Financial Statements, December 31, 2008, Note 3, p. 30.

43. Florida Legislature, Office of Program Policy Analysis and Government Accountability, “The SBA [State Board of Administration] Is Correcting Problems Relating to Its Oversight of the Local Government Investment Pool,” Research Memorandum, March 31, 2009, p. 2.

44. SBA report, “Update on Sub-Prime Mortgage Meltdown and State Board of Administration Investments,” November 9, 2007, pp. 721–22.

### Chapter 14

1. Bloomberg Professional, Write downs and Credit Losses vs. Capital Raised (WDCI) function, data reported for second half of 2007. Write-downs are for losses to holdings in structured finance and mortgages.

2. Roy C. Smith, *Paper Fortune\$: Modern Wall Street: Where It's Been and Where It's Going* (New York: St. Martin's 2009), p. 341.

3. Bloomberg Historical Prices Index December 31, 2007; CGS1U5; CBSC1U5; and CLEH1U5. Figures refer to credit default swaps on five-year senior debt.

4. Presentation to Merrill Lynch & Co. Board of Directors, “Leveraged Finance and Mortgage/CDO Review,” October 21, 2007, p. 23.

5. Presentation to Merrill board, October 21, 2007, p. 23.

6. Dow Kim, interview by FCIC, September 10, 2010.

7. Presentation to Merrill Board of Directors, October 21, 2007, p. 23.

8. *Ibid.*, pp. 23–24.

9. Presentation to Merrill Lynch Risk Oversight Committee, “Market Risk Management Update,” September 26, 2007, p. 7.

10. Merrill Lynch, 1Q 2007 Earnings Call transcript, April 19, 2007, p. 3.

11. Merrill Lynch, 2Q 2007 Earnings Release, July 17, 2007, p. 1.

12. Merrill Lynch, 2Q 2007 Earnings Call transcript, July 17, 2007, pp. 8, 20.

13. Merrill Lynch Finance Committee Summary, July 22, 2007, p. 7.

14. *Ibid.*

15. Kim, interview.

16. Stanley O’Neal, interview by FCIC, September 16, 2010.

17. “ABS CDO Update” by Dale Lattanzio, July 2007, p. 10.

18. O’Neal, interview.

19. Merrill Lynch, 3Q 2007 Earnings Call transcript, October 24, 2007, pp. 7, 10.

20. SEC narrative chronology, Merrill Lynch specific, p. 1.

21. Nancy Moran and Rodney Yap, “O’Neal Ranks No. 5 on Payout List, Group Says: Table (Update1),” *Bloomberg*, November 2, 2007.

22. Kim interview; Merrill Lynch, 2007 Proxy Statement, April 27, 2007, p. 47.

23. Charles Prince, interview by FCIC, March 17, 2010; Robert Rubin, interview by FCIC, March 11, 2010.

24. Prince, interview.

25. Moody’s Investors Service, “Structured Finance Rating Transitions: 1983–2006,” Special Comment, January 2007.

26. Charles Prince, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 2, session 1: Citigroup Senior Management, April 8, 2010, transcript, p. 11.

27. Prince, interview.
28. Tobias Brushhammar, James Hua, Graham Jackson, and Subra Viswanathan, Citigroup memorandum to Nestor Dominguez, Janice Warne, Michael Raynes, and Jo-Anne Williams, subject: Liquidity Put Valuation, October 19, 2006.
29. Susan Mills, interview by FCIC, February 3, 2010; James Xanthos, interview by Financial Industry Regulatory Authority (FINRA), March 24, 2009.
30. Susan Mills, testimony before the FCIC, hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 1, session 2: Subprime Origination and Securitization, April 7, 2010, transcript, pp. 186–87.
31. Mills, interview.
32. Murray Barnes, former managing director of Independent Risk, interview by FCIC, March 2, 2010.
33. Notes on Senior Supervisors' Meeting with Firms, meeting between Citigroup and Federal Reserve Bank of New York, Federal Reserve Board, Office of the Comptroller of the Currency, Securities and Exchange Commission, U.K. Financial Services Authority, and Japan FSA, November 19, 2007, p. 17.
34. Janice Warne, interview by FCIC, February 2, 2010; Nestor Dominguez, interview by FCIC, March 2, 2010.
35. Dominguez, interview.
36. Nestor Dominguez, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 1, session 3: Citigroup Subprime-Related Structured Products and Risk Management, April 7, 2010, transcript, pp. 282–83.
37. Barnes, interview.
38. *Ibid.*
39. Notes on Senior Supervisors' Meeting with Firms, meeting with Citigroup, November 19, 2007, p. 6.
40. FCIC staff calculations.
41. Prince, testimony before the FCIC, April 8, 2010, transcript, p. 118; David Bushnell, interview by FCIC, April 1, 2010.
42. Bushnell, interview.
43. Ellen "Bebe" Duke, Citigroup Independent Risk, interview by FCIC, March 18, 2010.
44. Barnes, interview.
45. James Xanthos, interview by Financial Industry Regulatory Authority (FINRA), March 24, 2009.
46. Barnes, interview.
47. Prince, interview.
48. Robert Rubin, former chairman of the Executive Committee and adviser, interview by FCIC, March 11, 2010.
49. Thomas Maheras, former co-CEO of Citi Markets & Banking, interview by FCIC, March 10, 2010.
50. Prince, interview.
51. Citigroup, Presentation to the Securities and Exchange Commission Regarding Overall CDO Business and Subprime Exposure, June 2007, p. 11.
52. Paul, Weiss, Citigroup's counsel, response to FCIC Interrogatory #18, March 1, 2010.
53. Citigroup, 2Q 2007 Earnings Call Q&A transcript, July 20, 2007.
54. Complaint, Securities and Exchange Commission v. Citigroup Inc., 1:10-cv-01277 (D.D.C.), July 29, 2010.
55. Federal Reserve Board of New York, letter to Vikram Pandit and the Board of the Directors of Citigroup, April 15, 2008, p. 11.
56. Dominguez, testimony before the FCIC, April 7, 2010, transcript, p. 281.
57. Maheras, interview, and testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 1, session 3: Citigroup Subprime-Related Structured Products and Risk Management, April 7, 2010, transcript, p. 269.
58. Bushnell, interview.
59. Prince, interview.
60. Complaint, Securities and Exchange Commission v. Citigroup Inc., p. 13.
61. Maheras, interview.

62. Prince, interview; Charles Prince, email to Robert Rubin, re, September 9, 2007, 9:43 A.M. (on Thomas Maheras and super seniors).
63. Robert Rubin, email to Charles Prince, September 9, 2007, 5:30 P.M.; Charles Prince, email to Robert Rubin, September 9, 2007, 5: 51 P.M.
64. Robert Rubin, interview by FCIC, March 11, 2010.
65. Prince, interview.
66. *Ibid.*
67. Citigroup, "Risk Management Review: An Update to the Corporate Audit and Risk Management Committee," October 15, 2007, p. 4.
68. Citigroup, Q3 2007 Earnings Call transcript, October 15, 2007.
69. Prince, interview.
70. Paul, Weiss, Citigroup's counsel, letter to FCIC in re the FCIC's second and third supplemental requests, March 31, 2010; Citigroup, 2008 Proxy Statement for fiscal year 2007, March 13, 2008, p. 74.
71. Federal Reserve Board of New York, letter to Vikram Pandit and the Board of Directors of Citigroup, April 15, 2008, p. 8.
72. FCIC staff calculations from Citigroup proxy statements (information for 2000–06) and information on 2007–09 provided by Paul, Weiss (on behalf of Citigroup), letter to FCIC, March 31, 2010, "Response to Interrogatory No. 7," pp. 3–6.
73. Robert Rubin, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 2, session 1: Citigroup Senior Management, April 8, 2010, transcript, pp. 15–16.
74. John Reed, interview by FCIC, March 24, 2010.
75. AIG, Earnings Call credit supplement, August 9, 2007.
76. Joseph St. Denis, letter to House Committee on Oversight and Government Reform, U.S. House of Representatives, October 4, 2008, p. 4.
77. Joseph St. Denis, interview by FCIC, April 23, 2010.
78. Gene Park, interview by FCIC, May 18, 2010.
79. Jake Sun, interview by FCIC, June 21, 2010.
80. Alan Frost, interview by FCIC, May 11, 2010.
81. Pierre Micottis, interview by FCIC, June 24, 2010.
82. Park, interview.
83. PricewaterhouseCooper audit team, memo re 3Q07 review of AIG's super-senior CDS portfolio, November 7, 2007, p. 2.
84. Joseph Cassano, interview by FCIC, June 25, 2010.
85. Park, interview.
86. Goldman's submissions to the FCIC on its valuation and pricing related to collateral calls made to AIG are available on Goldman Sachs's website (<http://www2.goldmansachs.com/our-firm/on-the-issues/responses-fcic.print.html>).
87. Andrew Forster, telephone call to Jon Liebergall, July 30, 2007, transcript.
88. PricewaterhouseCooper, memo to AIGFP 2007 2Q review files, August 8, 2007.
89. Andrew Forster, email to Joseph Cassano and Pierre Micottis, November 9, 2007, enclosing marks from Merrill Lynch,
90. AIG, Earnings Call credit supplement, August 9, 2007, pp. 28, 14, 21, 22.
91. These estimates are based on Federal Reserve Bank of New York, "Maiden Lane III Quarterly Holdings Report," January 2010. This probably isn't a complete list of their positions, because not all CDO tranches are part of the Maiden Lane III portfolio. Of the 335 securities listed in that document, FCIC staff found data on 327 in Moody's CDO EMS database and Bloomberg. For those 327 securities, 313 suffered a downgrade and 206 became materially impaired (i.e., were downgraded to Ca/C). Of the 139 initially rated Aaa, 134 suffered downgrades and 55 became materially impaired.
92. Alan Frost, email to Andrew Forster, August 16, 2007.
93. Cassano, interview.
94. Frost, email to Forster, August 16, 2007.
95. Tom Athan, email to Andrew Forster, cc Adam Budnick, September 11, 2007.
96. Joseph Cassano, email to Elias Habayeb, November 11, 2007.

97. Minutes of the meeting of the AIG Audit Committee, November 6, 2007, p. 5.
98. Andrew Forster, email to Joseph Cassano, subject: GS Prices vs Others, November 18, 2007.
99. Goldman, submission to the FCIC, "Valuation & Pricing Related to Initial Collateral Calls on Transactions with AIG," pp. 2–3.
100. Based on staff analysis of data provided to the FCIC by the Depository Trust & Clearing Corporation and Markit. ABX includes all tranches of the ABX.HE 06-2. TABX is constructed based on the reference obligations for the 06-2 and 07-1 BBB and BBB- tranches of the ABX.
101. Cassano, interview.
102. Andrew Forster, email to Alan Frost, August 16, 2007.
103. Tim Ryan, PricewaterhouseCooper, interview by FCIC, June 1, 2010.
104. SEC staff briefing of FCIC staff, June 4, 2010.
105. Joseph Cassano, email to Andrew Forster, Pierre Micottis, James Bridgwater, and Peter Robinson, subject: Fw: SS CDS Valuation, October 8, 2007.
106. PricewaterhouseCooper, minutes of meeting at AIGFP, October 11, 2007. See also PwC audit team, memo re 3Q07 review of AIG's super-senior CDS portfolio, November 7, 2007, pp. 230–31.
107. AIG, 3Q 2007 Earnings Call transcript, November 7, 2007, pp. 5, 17.
108. PwC audit team memo, p. 6.
109. Goldman Sachs International, to AIG Financial Products Corp., "Amended Side Letter Agreement," November 23, 2007.
110. Joe Cassano, email to Bill Dooley, November 27, 2007, attaching memo from Andrew Forster, "Collateral Call Status."
111. Andrew Forster, "Collateral Call Status," memo prepared for Joe Cassano.
112. Joe Cassano, email to Bill Dooley, subject: Collateral Calls, November 27, 2007.
113. Joe Cassano, email to Bill Dooley, subject: GS call back, November 30, 2007.
114. Goldman Sachs International, Collateral Invoice to AIG Financial Products Corp., margin call, November 23, 2007.
115. PwC audit team, memo, November 7, 2007, p. 5.
116. PricewaterhouseCooper, notes of a meeting to discuss super-senior valuations and collateral disputes, November 29, 2007, p. 2, produced by PwC.
117. Andrew Forster, interview by FCIC, June 21, 2010.
118. Martin Sullivan, interview by FDIC, June 17, 2010.
119. PwC, notes of meeting of November 29, 2007, p. 2.
120. *Ibid.*, p. 3.
121. Kevin McGinn, email to Paul Narayanan, November 20, 2007.
122. Sullivan, interview.
123. AIG Investor Conference Call, December 5, 2007, transcript, pp. 4–6, 25.
124. Joseph Cassano, email to Michael Sherwood and David Viniar, subject: CDO Valuations, January 16, 2008.
125. Andrew Davilman, interview by FCIC, June 18, 2010; David Lehman, interview by FCIC, June 23, 2010.
126. "AIG/Goldman Sachs Collateral Call Timeline," available on FCIC website at <http://fcic.gov/hearings/pdfs/2010-0701-AIG-Goldman-supporting-docs.pdf>.
127. PricewaterhouseCooper, memo to AIG workpaper files, February 24, 2008, pp. 2–3, 10.
128. PricewaterhouseCooper, notes on a February 6, 2008, meeting with AIG, February 13, 2008, p. 2.
129. Martin Sullivan, testimony before the FCIC, Hearing on the Role of Derivatives in the Financial Crisis, day 1, session 2: American International Group, Inc. and Derivatives, June 30, 2010, transcript, p. 233.
130. PricewaterhouseCooper, notes on the AIG Audit Committee meeting, February 7, 2008, p. 2.
131. Joseph Cassano, testimony before the FCIC, Hearing on the Role of Derivatives in the Financial Crisis, day 1, session 2: American International Group, Inc. and Derivatives, June 30, 2010, p. 233; Cassano, interview.
132. Office of Thrift Supervision, letter to AIG General Counsel and Board, March 7, 2008.
133. William Dudley, interview by FCIC, October 15, 2010.

134. Adam B. Ashcraft, Morten L. Bech, and W. Scott Frame, "The Federal Home Loan Bank System: The Lender of Next to Last Resort?" Federal Reserve Bank of New York Staff Reports, no. 357 (November 2008), p. 4.
135. Federal Reserve Board, "October 2007 Senior Loan Officer Opinion Survey on Bank Lending Practices," October 2007.
136. Frederic Mishkin, interview by FCIC, October 1, 2010.
137. Dudley, interview.
138. Ibid.
139. Ibid.
140. Standard & Poor's, "Detailed Results of Subprime Stress Test of Financial Guarantors," Ratings-Direct, February 25, 2008.
141. Alan Roseman, interview by FCIC, May 17, 2010.
142. SEC, "Risk Management Reviews of Consolidated Supervised Entities," internal memo to Erik Sirri and others, November 6, 2007, p. 3.
143. Roseman, interview, May 17, 2010.
144. SEC, "Risk Management of Consolidated Supervised Entities," internal memo to Erik Sirri and others, January 2, 2008, p. 2.
145. Bill Lockyer, *State of California 2008 Debt Affordability Report: Making the Municipal Bond Market Work for Taxpayers in Turbulent Times* (October 1, 2008), p. 4.
146. John J. McConnell and Alessio Saretto, "Auction Failures and the Market for Auction Rate Securities" (The Krannert School of Management, Purdue University, April 2009), p. 10.
147. Erik R. Sirri, director of Trading and Markets, U.S. Securities and Exchange Commission, "Municipal Bound Turmoil: Impact on Cities, Towns and States," testimony before the House Financial Services Committee, 110th Cong., 2nd sess., March 12, 2008.
148. Georgetown University, "Annual Financial Report, 2008–2009," p. 5.
149. Jacqueline Doherty, "The Sad Story of Auction-Rate Securities, Barrons, May 26, 2008.
150. "SEC Finalizes ARS Settlements with Bank of America, RBC, and Deutsche Bank," SEC press release, June 3, 2009.

### Chapter 15

1. "Prime Asset," 2007 Upper HedgeWorld Prime Brokerage League Table, accessible at Gregory Zuckerman, "Hedge Funds, Once a Windfall, Contribute to Bear's Downfall," *Wall Street Journal*, March 17, 2008.
2. Jeff Mayer and Thomas Marano, "Fixed Income Overview," March 29, 2007, p. 8, produced by JP Morgan.
3. Inside Mortgage Finance, *The 2009 Mortgage Market Statistical Annual*, vol. 2, *The Secondary Market* (Bethesda, MD: Inside Mortgage Finance, 2009), pp. 18–25.
4. FCIC staff estimates, based on Moody's CDO EMS database. Different numbers are provided in Jeff Mayer and Thomas Marano, "Fixed Income Overview," March 29, 2007, p. 16.
5. Samuel Molinaro, interview by FCIC, April 9, 2010; Michael Alix, interview by FCIC, April 8, 2010.
6. SEC, "Risk Management Reviews of Consolidated Supervised Entities," memorandum to Robert Colby and others, May 8, 2006.
7. Robert Upton, interview by FCIC, April 13, 2010.
8. SEC, "Risk Management Reviews of Consolidated Supervised Entities," memorandum to Erik Sirri and others, March 1, 2007.
9. Ibid.
10. Bear Stearns, "Fitch Presentation," PowerPoint slides, August 2007.
11. Upton, interview.
12. Bear Stearns, Form 10-K for the year ended November 30, 2007, filed January 29, 2008, pp. 52, 22.
13. Upton, interview.
14. Ibid.
15. Standard & Poor's, Global Credit Portal RatingsDirect, "Research Update: Bear Stearns Cos. Inc. Outlook Revised to Negative; 'A+/A-1' Rating Affirmed," August 3, 2007.
16. Jimmy Cayne, interview by FCIC, April 21, 2010.

17. Matthew Eichner, interview by FCIC, April 14, 2010.
18. Wendy de Monchaux, interview by FCIC, April 27, 2010; Steven Meyer, interview by FCIC, April 22, 2010.
19. Mike Alix, interview by FCIC, April 8, 2010.
20. Eichner, interview.
21. Timeline Regarding Bear Stearns Companies Inc., April 3, 2008, produced by SEC.
22. SEC Office of Inspector General, Office of Audits, "SEC's Oversight of Bear Stearns and Related Entities: The Consolidated Supervised Entity Program," Report No. 446-A, September 25, 2008, pp. ix-x.
23. Michael Halloran, interview by FCIC.
24. Cayne, interview.
25. Samuel Molinaro, testimony before the FCIC, Hearing on the Shadow Banking System, day 1, session 1: Investment Banks and the Shadow Banking System, May 5, 2010, transcript, p. 43; Cayne, interview.
26. "Changes in Approved Commercial Paper List—10/01/2007–12/31/2007" and "Changes in Approved Commercial Paper List—1/01/2008–3/31/2008," produced by Federated Advised Funds.
27. Federal Reserve Bank of New York, "Tri-Party Repo Infrastructure Reform," white paper, May 17, 2010, p. 7.
28. Seth Carpenter, interview by FCIC, September 20, 2010.
29. Information provided by Federated to the FCIC.
30. Scott Goebel, Kevin Gaffney, and Norm Lind (Fidelity employees), interview by FCIC, February 25, 2010.
31. Steve Meier, executive vice president State Street Global Advisors, interview by FCIC, March 15, 2010.
32. Timeline Regarding the Bear Stearns Companies Inc., April 3, 2008, pp. 1–2, provided to the FCIC.
33. Alan Schwartz, interview by FCIC, April 23, 2010.
34. Lucian A. Bebchuk et al., "The Wages of Failure: Executive Compensation at Bear Stearns and Lehman 2000–2008," November 22, 2009, Table 2, p. 15; SNL Financial.
35. Thomas Marano, interview by FCIC, April 19, 2010.
36. Paul Friedman, quoted in William Cohan, *House of Cards: A Tale of Hubris and Wretched Excess on Wall Street* (New York: Doubleday, 2009), p. 71. Although Friedman acknowledged to the FCIC making the cited statements, and many others as well, he attributes them to anger and frustration over Bear Stearns's failure. Currently, Friedman is employed at Guggenheim Securities, Inc., where he works for Alan Schwartz, the former president of Bear Stearns. Paul Friedman, interview by FCIC, April 28, 2010.
37. The Corporate Library, "The Bear Stearns Companies Inc.: Governance Profile," June 20, 2008, p. 4.
38. Cayne, interview.
39. Molinaro, interview.
40. Cayne, interview; Schwartz (interview by FCIC) stated that bonuses for individual executives were discussed by the Compensation Committee, and the final recommendation for bonuses came from the CEO.
41. Alix, interview.
42. Bear Stearns, 2007 Performance Compensation Plan, p. I-1 (provided to the FCIC); Alix, interview. The salary cap had been raised from \$200,000 to \$250,000 in 2006 (Alix, interview; Cayne, interview).
43. Bebchuk et al., "The Wages of Failure," Table 1, p. 12; Table 2, p. 15; Table 4, p. 20. The budget authority for the SEC in 2008 was \$906 million; in 2010, it was \$1.026 billion.
44. In 2006, Alix received \$3 million in total compensation, Cayne received more than \$38.3 million in salary and bonus, and Schwartz received more than \$35.7 million in salary and bonus. SNL Financial; interviews with Spector and Alix.
45. Marano, interview.
46. Tom Marano, email to Alan Schwartz and Richie Metrick, February 12, 2008.
47. Matthew Eichner, email to James Giles et al., January 30, 2008.
48. Lou Lebedin, interview by FCIC, April 23, 2010.



49. Timeline Regarding Bear Stearns Companies Inc., April 3, 2008, produced by SEC.
50. Upton, interview.
51. Minutes of Special Meeting of Bear Stearns Board of Directors, March 13, 2008.
52. Pat Lewis, Bear Stearns, email to Matthew Eichner, Steven Spurry, James Giles, and Kevin Silva, March 10, 2008.
53. Matthew Eichner, email to Brian Peters, March 11, 2008.
54. David Fetting, "The History of a Powerful Paragraph," Federal Reserve Bank of Minneapolis, June 2008.
55. James Embersit, email to Deborah Bailey, March 3, 2008.
56. In response to the FCIC's interrogatories, JP Morgan produced a list of all payments Bear Stearns made to or received from OTC derivatives counterparties from March 10, 2008, through March 14, 2008. The spreadsheet was created in September 2008 by Bear Stearns in response to a request by the SEC Division of Trading and Markets. The large volume of novations away from Bear Stearns during the week of March 10, 2008 and the previous week was confirmed by the New York Federal Reserve and International Swaps and Derivatives Association. (New York Federal Reserve personnel, interview by FCIC; ISDA personnel, interviews by FCIC, May 13 and 27, 2010).
57. Brian Peters, email to Matthew Eichner, March 11, 2008.
58. Stuart Smith, email to Bear Stearns, March 11, 2008; Marvin Woolard, email Stuart Smith et al., March 11, 2008; Kyle Bass, interview by FCIC, April 30, 2010.
59. Bass, interview.
60. Debby LaMoy, email to Faina Epshteyn, March 12, 2008; Faina Epshteyn, email to Debby LaMoy, March 12, 2008.
61. Marvin Woolard, email to Stuart Smith et al., March 12, 2008.
62. CNBC video, Schwartz and CNBC's David Faber, original air date March 12, 2008.
63. Yalman Onaran, "Bear Stearns Investor Lewis May Increase His Stake," Bloomberg News, March 11, 2008.
64. Matthew Eichner, email to Erik Sirri, Robert Colby, and Michael Macchiaroli, March 12, 2008.
65. Minutes of Special Meeting of Bear Stearns Board of Directors, March 13, 2008, pp. 1–2.
66. Upton, interview.
67. Matthew Eichner, email to Erik Sirri, Robert Colby, and Michael Macchiaroli, March 12, 2008.
68. Alan Schwartz, interview by FCIC; Matthew Eichner, email to Erik Sirri, Robert Colby, and Michael Macchiaroli, March 13, 2008.
69. Upton, interview.
70. Minutes of Special Meeting of Bear Stearns Board of Directors, March 13, 2008 ("[Schwartz] said there had been seventeen billion dollars in cash with a two billion eight hundred million dollar backstop, unsecured line. The Board was told that twelve to fifteen billion dollars had gone out of TBSCI in the last two days and that TBSCI had received a billion dollars in margin calls").
71. Upton, interview; Goebel, Gaffney, and Lind, interview; Steven Meier, interview by FCIC, March 15, 2010; Michael Macchiaroli, interview by FCIC, April 13, 2010.
72. Christopher Cox, written testimony for the FCIC, Hearing on the Shadow Banking System, day 1, session 3: SEC Regulation of Investment Banks, May 5, 2010, p. 6.
73. Timeline Regarding Bear Stearns Companies Inc., April 3, 2008, produced by SEC.
74. Jamie Dimon, interview by FCIC, October 20, 2010.
75. Alan Schwartz, testimony before the FCIC, Hearing on the Shadow Banking System, day 1, session 2: Investment Banks and the Shadow Banking System, May 5, 2010, transcript, p. 167; Schwartz, interview.
76. Schwartz., interview.
77. *Ibid.*; Molinaro, interview; Alix, interview.
78. John Chrin, interview by FCIC, April 28, 2010.
79. Dimon, interview by FCIC, October 20, 2010; minutes of Special Meeting of Bear Stearns Board of Directors, March 16, 2008.
80. Federal Reserve, "Report Pursuant to Section 129 of the Emergency Economic Stabilization Act of 2008: Loan to Facilitate the Acquisition of The Bear Stearns Companies, Inc. by JP Morgan & Co.," pp. 1, 4; Ernst & Young, "Project LLC: Summary of Findings and Observations Report," June 26, 2008, p. 10.

81. Contrary to what is stated in the board minutes (Special Meeting of Bear Stearns Board of Directors, March 16, 2008, p. 5), when FCIC staff interviewed Schwartz he said that the \$2 a share price came from JP Morgan, not Paulson. Schwartz also told staff that because Bear did not receive “a lot of competing offers,” it had to accept JP Morgan’s offer of \$2 a share.

82. Chrin, interview.

83. Alan Schwartz, testimony before the FCIC, Hearing on the Shadow Banking System, day 1, session 2: Investment Banks and the Shadow Banking System, May 5, 2010, transcript, p. 142.

84. Macchiaroli, interview.

85. Ben Bernanke, closed-door session with FCIC, November 17, 2009.

86. Ibid.

87. Timothy Geithner, president, Federal Reserve Bank of New York, “Actions by the New York Fed in Response to Liquidity Pressures in Financial Markets,” prepared testimony before the Senate Committee on Banking, Housing, and Urban Affairs, 110th Cong., 2nd sess., April 3, 2008, p. 10.

88. Henry Paulson, testimony before the FCIC, Hearing on the Shadow Banking System, day 2, session 1: Perspective on the Shadow Banking System, May 6, 2010, transcript, pp. 68, 59, 78.

### Chapter 16

1. David Wong, interview by FCIC, October 15, 2010.

2. Josh Fineman and Yalman Onaran, “Lehman’s Fuld Says ‘Worst Is Behind Us’ in Crisis (Update3),” Bloomberg, April 15, 2008.

3. Henry Paulson, testimony before the FCIC, Hearing on the Shadow Banking System, day 2, session 1: Perspective on the Shadow Banking System, May 6, 2010, transcript, p. 28.

4. Viral V. Acharya and T. Sabri Öncü, “The Dodd-Frank Wall Street Reform and Consumer Protection Act and a Little Known Corner of Wall Street: The Repo Market,” *Regulating Wall Street*, July 16, 2010.

5. Sandie O’Connor, JP Morgan, interview by FCIC, March 4, 2010.

6. Jamie Dimon, interview by FCIC, October 20, 2010.

7. Adam Copeland, Antoine Martin, Michael Walker, “The Tri-Party Repo Market Before the 2010 Reforms,” FRBNY Staff Report No. 477, November 2010, p. 24.

8. Steven Meier, testimony before the FCIC, Hearing on the Shadow Banking System, day 2, session 3: Institutions Participating in the Shadow Banking System, May 6, 2010, transcript, p. 276.

9. William Dudley, interview by FCIC, October 15, 2010.

10. Darryll Hendricks, interview by FCIC, August 6, 2010.

11. James Cayne, testimony before the FCIC, Hearing on the Shadow Banking System, day 1, session 2: Investment Banks and the Shadow Banking System, May 5, 2010, transcript, p. 168.

12. Seth Carpenter, interview by FCIC, September 20, 2010.

13. Federal Reserve, “Regulatory Reform: Primary Dealer Credit Facility (PCDF),” Usage of Federal Reserve Credit and Liquidity Facilities, data available at [www.federalreserve.gov/newsevents/reform\\_pdcf.htm](http://www.federalreserve.gov/newsevents/reform_pdcf.htm).

14. Anton R. Valukas, Report of Examiner, *In re Lehman Brothers Holdings Inc.*, et al., Chapter 11 Case No. 08-13555 (JMP), (Bankr. S.D.N.Y.), March 11, 2010, 4:1396-98; quotation, 1396 (hereafter cited as Valukas; available at <http://lehmanreport.jenner.com/>).

15. William Dudley, email to Chairman, June 17, 2008.

16. Dimon, interview.

17. Ibid.

18. Hendricks, interview.

19. Lucinda Brickler, email to Patrick Parkinson, July 11, 2008; Lucinda Brickler et al., memorandum to Timothy Geithner, July 11, 2008.

20. The \$200 billion figure is noted in Patrick Parkinson, email to Ben Bernanke et al., July 20, 2008.

21. Brickler et al., memorandum, p. 1.

22. Patrick Parkinson, email to Lucinda Brickler, July 11, 2008.

23. Patrick Parkinson, email to Ben Bernanke et al., July 20, 2008.

24. Ibid.

25. Based on chart in Federal Reserve Bank of New York, *Developing Metrics for the Four Largest Securities Firms*, August 2008, p. 5.
26. *Ibid.*
27. Tobias Adrian, Christopher Burke, and James McAndrews, “The Federal Reserve’s Primary Dealer Credit Facility,” Federal Reserve Bank of New York, *Current Issues in Economics and Finance* 15, no. 4 (August 2009): 2.
28. Erik Sirri, interview by FCIC, April 9, 2010, p. 3.
29. Fed Chair Ben Bernanke, “Lessons from the Failure of Lehman Brothers,” testimony before the House Financial Services Committee, 111th Cong., 2nd sess., April 20, 2010, p. 1.
30. Valukas, 1:8 n. 30: Examiner’s Interview of Timothy F. Geithner, Nov. 24, 2009, p. 4.
31. Valukas, 4:1486.
32. Sirri, interview.
33. William Brodows and Til Schuermann, Federal Reserve Bank of New York, “Primary Dealer Monitoring: Initial Assessment of CSEs,” May 12, 2008, slides 9–10, 15–16.
34. Federal Reserve Bank of New York, “Primary Dealer Monitoring: Liquidity Stress Analysis,” June 25, 2008, p. 3.
35. *Ibid.*, p. 5.
36. Valukas, 4:1489.
37. *Ibid.*, 4:1496, 1497.
38. Christopher Cox, statement before the House Financial Services Committee, 111th Cong., 2nd sess., April 20, 2010, p. 5.
39. Patrick Parkinson, email to Steven Shafran, August 8, 2008.
40. Counterparty Risk Management Policy Group, “Toward Greater Financial Stability: A Private Sector Perspective, The Report of the CRMPG II,” July 27, 2005.
41. Federal Reserve Bank of New York, “Statement Regarding Meeting on Credit Derivatives,” September 15, 2005; Federal Reserve Bank of New York, “New York Fed Welcomes New Industry Commitments on Credit Derivatives,” March 13, 2006; Federal Reserve Bank of New York, “Third Industry Meeting Hosted by the Federal Reserve Bank of New York,” September 27, 2006.
42. See Comptroller of the Currency, “OCC’s Quarterly Report on Bank Trading and Derivatives Activities, First Quarter 2009,” Table 1; the figures in the text are reached by subtracting exchange traded futures and options from total derivatives.
43. Chris Mewbourne, interview by FCIC, July 28, 2010.
44. This figure compares with a low in 2005, at the height of the mortgage boom, of \$7 billion in problem assets. “Problem” institutions are those with financial, operational, or managerial weaknesses that threaten their continued financial viability; they are rated either a 4 or 5 under the Uniform Financial Institutions Rating System. FDIC reporting for insured institutions—i.e., the regulated banking and thrift industry overall. See *Quarterly Banking Profile: Fourth Quarter 2007 = FDIC Quarterly 2*, no. 1 (December 31, 2007): 1, 4; *Quarterly Banking Profile: First Quarter 2008 = FDIC Quarterly 2*, no. 2 (March 31, 2008): 2, 4; *Quarterly Banking Profile: Second Quarter 2008 = FDIC Quarterly 2*, no. 3 (June 30, 2008): 1.
45. By 2009, the problem list would swell to 702 banks, with assets of \$403 billion. *Quarterly Banking Profile: Fourth Quarter 2009 = FDIC Quarterly 4*, no. 1 (December 31, 2009): 4.
46. *Quarterly Banking Profile: First Quarter 2008*, p. 4.
47. Roger Cole, interview by FCIC, August 2, 2010.
48. FCIC interview with Michael Solomon and Fred Phillips-Patrick, September 20, 2010.
49. Federal Reserve Bank of New York, letter to Charles Prince, April 9, 2007.
50. Federal Reserve Bank of New York, Federal Reserve Board, Office of the Comptroller of the Currency, Securities and Exchange Commission, U.K. Financial Services Authority, and Japan Financial Services Authority, “Notes on Senior Supervisors’ Meetings with Firms,” November 19, 2007, p. 3.
51. Federal Reserve Board, “FRB New York 2009 Operations Review: Close Out Report,” p. 3.
52. Timothy Geithner, testimony before the FCIC, Hearing on the Shadow Banking System, day 2, session 1: Perspective on the Shadow Banking System, May 6, 2010, transcript, p. 210.
53. Steve Manzari and Dianne Dobbeck, interview by FCIC, April 26, 2010.
54. Federal Reserve Board, “Wachovia Case Study,” November 12 and 13, p. 20;
55. Angus McBryde, interview by FCIC, July 30, 2007.

56. Thompson received a severance package worth about \$8.7 million in compensation and accelerated vesting of stock. In addition, he negotiated himself three years of office space and a personal assistant at Wachovia's expense. Thompson had previously received more than \$21 million in salary and stock compensation in 2007 and more than \$23 million in 2006; his total compensation from 2002 through 2008 exceeded \$112 million.

57. Federal Reserve Bank of Richmond, letter to Wachovia, July 22, 2008, pp. 3–5.

58. Comptroller of the Currency, letter to Wachovia, August 4, 2008, with Report of Examination; letter, pp. 8, 3.

59. *Ibid.*, pp. 3–6.

60. *Ibid.*, letter, p. 2; Report of Examination, p. 18.

61. *Ibid.*, Report of Examination, p. 12.

62. "Home Loans Discussion," materials prepared for WaMu Board of Directors meeting, April 18, 2006, p. 4; Senate Permanent Subcommittee on Investigations, *Wall Street and the Financial Crisis: The Role of High Risk Home Loans*, 111th Cong., 2nd sess., April 13, 2010, Exhibits, p. 83.

63. Senate Permanent Subcommittee on Investigations, *Wall Street and the Financial Crisis: Role of the Bank Regulators*, 111th Cong., 2nd sess., April 16, 2010, Exhibits, p. 6.

64. OTS Regional Director Darrel Dochow, letter to FDIC Regional Director Stan Ivie, July 22, 2008.

65. Offices of Inspector General, Department of the Treasury and Federal Deposit Insurance Corporation, "Evaluation of Federal Regulatory Oversight of Washington Mutual Bank," Report No. EVAL 10-002, April 2010, pp. 31, 12.

66. FDIC, Confidential Problem Bank Memorandum, September 8, 2008, p. 4.

67. Treasury and FDIC IGs, "Evaluation of Federal Regulatory Oversight of WaMu," p. 39.

68. Confidential OTS Memorandum to FDIC Regional Director, September 11, 2008; Treasury and FDIC IGs, "Evaluation of Federal Regulatory Oversight of WaMu," pp. 45–47.

69. Quoted in Damian Paletta, "FDIC Presses Bank Regulators to Use Warier Eye," *Wall Street Journal*, August 19, 2008.

70. Sheila Bair, interview by FCIC, August 18, 2010.

71. Treasury and FDIC IGs, "Evaluation of Federal Regulatory Oversight of WaMu," p. 3.

72. Comptroller of the Currency, *Large Bank Supervision: Comptroller's Handbook*, January 2010, p. 3.

73. Cole, interview.

74. Rich Spillenkothen, "Observations and Perspectives of the Director of Banking Supervision and Regulation at the Federal Reserve Board from 1991 to 2006 on the Performance of Prudential Supervision in the Years Preceding the Financial Crisis," paper prepared for the FCIC, May 21, 2010, p. 24.

75. Doug Roeder, interview by FCIC, August 4, 2010.

76. "Treasury Releases Blueprint for Stronger Regulatory Structure," Treasury Department press release, March 31, 2008.

### Chapter 17

1. Henry Paulson, interview by FCIC, April 2, 2010; Henry Paulson, *On The Brink: Inside the Race to Stop the Collapse of the Global Financial System* (New York: Business Plus, 2010), p. 57.

2. Paulson, interview.

3. James Lockhart, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 3, session 2: Office of Federal Housing Enterprise Oversight, April 9, 2010, transcript, p. 163.

4. Daniel Mudd, letter to James Lockhart, August 1, 2007, p. 1.

5. *Ibid.*, pp. 1, 5.

6. Daniel Mudd, letter to shareholders, in Fannie Mae, "2007 Annual Report," p. 3.

7. Thomas Lund, interview by FCIC, March 4, 2010.

8. Robert Levin, interview by FCIC, March 17, 2010.

9. James Lockhart, letter to Daniel Mudd, August 10, 2007, p. 1.

10. James Lockhart, letter to Senator Charles Schumer, August 10, 2007.

11. James Lockhart, written testimony for the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 3, session 2: Office of Federal Housing Enterprise Oversight, April 4, 2010, pp. 12, 2, 12.

12. *Ibid.*, pp. 2, 4, 7.
13. Paulson, interview.
14. David Nason, Tony Ryan, and Jeremiah Norton, Treasury officials, interview by FCIC, March 12, 2010.
15. James Lockhart, quoted in Steven Sloan, "Setting an OFHEO Plan, But Wishing Otherwise," *American Banker*, December 21, 2007.
16. Fannie Mae, "Single-Family Book Characteristics Report," September 2008.
17. "OFHEO Provides Flexibility on Fannie Mae, Freddie Mac Mortgage Portfolios," OFHEO news release, September 19, 2007, p. 1.
18. Lockhart, written testimony for the FCIC, April 4, 2010, p. 13.
19. Ben Bernanke, quoted in Eric Dash, "Fannie Mae to Be Allowed to Expand Its Portfolio," *New York Times*, September 20, 2007.
20. Senator Charles E. Schumer, letter to OFHEO Director James B. Lockhart III, February 25, 2008; Schumer continued, "If you have decided that you will be keeping the capital surcharge in place . . . , I would like an explanation as to why you think upholding that restriction outweighs the importance of providing capital relief that could better position the GSEs to provide rescue products for borrowers stuck in unaffordable loans."
21. "Fannie Mae Reports 2007 Financial Results," Fannie Mae press release, February 17, 2008.
22. Daniel Mudd, interview by FCIC, March 26, 2010.
23. Robert Steel, email to Jeremiah Norton, February 28, 2008.
24. Michael Farrell, email to Robert Steel, March 6, 2008.
25. Emails between Robert K. Steel and Daniel Mudd, March 7, 2008.
26. Daniel Mudd, email to Robert Levin, March 7, 2008.
27. "Fannie Mae Insolvency and Its Consequences," p. 1; attachment to email from Jason Thomas to Robert Steel, March 8, 2008.
28. Robert Steel, email to David Nason, Tony Ryan, Jeremiah Norton, and Neel Kashkari, subject: "re: GSEs," March 16, 2008.
29. James Lockhart, interview by FCIC, March 19, 2010.
30. Paulson, interview.
31. James Lockhart, email to Daniel H. Mudd, Robert Steel, and Dick Syron, subject: "Re: announcement draft," March 17, 2008.
32. *Ibid.*
33. "OFHEO, Fannie Mae and Freddie Mac Announce Initiative to Increase Mortgage Market Liquidity," OFHEO news release, March 19, 2008.
34. Paulson, interview.
35. Joshua Rosner, "OFHEO Got Rolled," *GrahamFisher Weekly Spew*, March 19, 2008.
36. Donald Bisenius, interview by FCIC, September 29, 2010.
37. "Freddie Mac CEO Richard Syron Talks about the Stock Slide," *PBS Nightly Business Report*, Wednesday, August 6, 2008, transcript.
38. Lockhart, interview.
39. Daniel Mudd, letters to James Lockhart, August 1, 2008, and August 15, 2008.
40. Timothy P. Clark (senior adviser, Division of Banking and Supervision, Federal Reserve Board) and Scott Alvarez (general counsel, Federal Reserve Board), interview by FCIC, February 23, 2010.
41. "Board Grants Federal Reserve Bank of New York the Authority to Lend to Fannie Mae and Freddie Mac Should Such Lending Prove Necessary," Federal Reserve Board press release, July 13, 2008.
42. Alvarez, interview.
43. Treasury Secretary Henry Paulson, testimony on GSE initiatives, *Recent Developments in U.S. Financial Markets and the Regulatory Responses to Them*, Senate Committee on Banking, Housing, and Urban Affairs, 110th Cong., 2nd sess., July 15, 2008.
44. "Statement by Daniel H. Mudd, President and CEO," Fannie Mae press release, July 13, 2008.
45. Clark, interview.
46. Mudd, interview.
47. Clark, interview.
48. Susan Eckert, Kevin Bailey, and other OCC staff, interview by FCIC, February 19, 2010.

49. *Ibid.*
50. Office of the Comptroller of the Currency, “Observations—Allowance Process and Methodology,” August 2008 (last revised September 8, 2008), p. 3.
51. Paulson, interview.
52. Christopher H. Dickerson (FHFA Acting Deputy Director, Division of Enterprise Regulation), letter to Daniel H. Mudd (President and CEO of Fannie Mae), “Re: Notice of Proposed Capital Classification at June 30, 2008,” August 22, 2008, pp. 1, 2; Christopher H. Dickerson (FHFA Acting Deputy Director, Division of Enterprise Regulation), letter to Richard F. Syron (President and CEO of Freddie Mac), “Re: Notice of Proposed Capital Classification at June 30, 2008,” August 22, 2008.
53. “Draft—Mid-year Letter,” pp. 11–13 (quotation, p. 13), attached to Christopher H. Dickerson, letter to Daniel H. Mudd, September 4, 2008.
54. Dickerson to Mudd, September 4, 2008; Christopher H. Dickerson, letter to Richard Syron, September 4, 2008, with “Draft Mid Year Letter” attached.
55. “Draft—Mid-year Letter” (Fannie), pp. 5–7.
56. *Ibid.*, p. 5.
57. *Ibid.*, p. 6.
58. *Ibid.*, pp. 9–10.
59. “Draft Mid Year Letter” (Freddie), pp. 1, 1–2, 7.
60. *Ibid.*, p. 8.
61. Mudd, interview.
62. Christopher H. Dickerson to James B. Lockhart III, memorandum, “Proposed Appointment of the Federal Housing Finance Agency as Conservator for the Federal Home Loan Mortgage Corporation,” September 6, 2008 (hereafter Freddie conservatorship memorandum); Christopher H. Dickerson to James B. Lockhart III, memorandum, “Proposed Appointment of the Federal Housing Finance Agency as Conservator for the Federal National Mortgage Association,” September 6, 2008 (hereafter Fannie conservatorship memorandum).
63. Paulson, interview; Lockhart, interview; Paulson, *On the Brink*, p. 8.
64. Lockhart, testimony before the FCIC, April 9, 2010, transcript, p. 191.
65. Paulson, interview; Paulson, *On the Brink*, p. 10.
66. Paulson, *On the Brink*, p. 10.
67. Lund, interview.
68. Levin, interview.
69. Mudd, interview.
70. FHFA, Fannie conservatorship memorandum, pp. 2, 29.
71. FHFA, Freddie conservatorship memorandum, pp. 3, 29.
72. Syron, interview.
73. Daniel Mudd, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 3,” session 1: Fannie Mae, April 9, 2010, transcript, p. 38.
74. Paul Nash, FDIC, letter to FCIC, providing responses to follow-up questions to Sheila Bair’s testimony during the September 2, 2010, hearing, p. 5.
75. Paulson, interview.
76. Neel Kashkari, interview by FCIC, November 2, 2010.
77. Tom Baxter, interview by FCIC, April 30, 2010; Kevin Warsh, interview by FCIC, October 28, 2010.
78. Warsh, interview.
79. Lockhart, testimony before the FCIC, April 9, 2010, transcript, p. 232.
80. Staff of the Federal Reserve System, Division of Banking Supervision and Regulation, memorandum to the Board of Governors, “Stress Scenarios on Bank Exposures to Government Sponsored Enterprise (GSE) Debt,” January 24, 2005, p. 5.
81. Daniel Mudd, written testimony for the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 3, session 1: Fannie Mae, April 9, 2010, p. 3.
82. John Kerr, Scott Smith, Steve Corona (FHFA examination manager), and Alfred Pollard (FHFA general counsel), group interview by FCIC, March 12, 2010.



83. Lockhart, interview.
84. Edward DeMarco, interview by FCIC, March 18, 2010.
85. Mudd, interview.
86. Henry Cisneros, interview by FCIC, October 13, 2010.
87. Mudd, testimony before the FCIC, April 9, 2010, transcript, p. 104.
88. Robert Levin, testimony before the FCIC, Hearing on Subprime Lending and Securitization and Government-Sponsored Enterprises (GSEs), day 3, session 1: Fannie Mae, April 9, 2010, transcript, p. 104.

### Chapter 18

1. Joseph Sommer, counsel, Federal Reserve Bank of New York, email to Patrick M. Parkinson, deputy research director, Board of Governors of the Federal Reserve System, et al., “Re: another option we should present re triparty?” July 13, 2008.
2. James Dimon, interview by FCIC, October 20, 2010.
3. Barry Zubrow, testimony before the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 1, session 2: Lehman Brothers, September 1, 2010, p. 212.
4. Richard S. Fuld Jr., testimony before the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 1, session 2: Lehman Brothers, September 1, 2010, p. 148. See also Fuld’s written testimony at same hearing, p. 6.
5. Ben Bernanke, testimony before the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 2, session 1: The Federal Reserve, September 2, 2010, transcript, pp. 26, 89.
6. Kenneth D. Lewis, interview by FCIC, October 22, 2010.
7. Bernanke, testimony before the FCIC, September 2, 2010, p. 22.
8. Bernanke told the examiner that the Federal Reserve, the SEC, and “markets in general” viewed Lehman as the next most vulnerable investment bank because of its funding model. Anton R. Valukas, Report of Examiner, *In re* Lehman Brothers Holdings Inc., et al., Debtors, Chapter 11 Case No. 08-13555 (JMP), (Bankr. S.D.N.Y.), March 11, 2010, 2:631 (hereafter cited as Valukas); see also 1:5 and n. 16, 2:609 and nn. 2133–34, 4:1417 and n. 5441, 4:1482 and n. 5728, 4:1494, and 5:1663 and n. 6269. Paulson, 2:632. Geithner told the examiner that following Bear Stearns’s near collapse, he considered Lehman to be the “most exposed” investment bank, 2:631; see also 1:5 and n. 16, 2:609, 4:1417 and n. 5441, 4:1482 and n. 5728, 4:1491 and n. 5769, and 5:1663 and n. 6269. Cox reported that after Bear Stearns collapsed, Lehman was the SEC’s “number one focus”; 1:5 and n. 16, and p. 1491 and n. 5769; see also 2:609, 631.
9. Timothy Geithner, quoted in Valukas, 1:8 and n. 30, 4:1496.
10. Donald L. Kohn, email to Bernanke, “Re: Lehman,” June 13, 2008. Valukas, 2:615; 2:609 and n. 2134.
11. Harvey R. Miller, bankruptcy counsel for Lehman Brothers, interview by FCIC, August 5, 2010; Lehman board minutes, September 14, 2008, p. 34.
12. Erik R. Sirri, interview by FCIC, April 1, 2010.
13. Paolo R. Tonucci, interview by FCIC, August 6, 2010.
14. Specifically, Lehman drew \$1.6 billion on March 18; \$2.3 billion on March 19 and 20; \$2.7 billion on March 24; \$2.1 billion on March 25 and 26; and \$2 billion on April 16. Lehman Brothers, “Presentation to the Federal Reserve: Update on Capital, Leverage & Liquidity,” May 28, 2008, p. 15. See also Robert Azerad, vice president, Lehman Brothers, “2008 Q2—Liquidity Position (June 6, 2008),” p. 3. After its bankruptcy, Lehman drew \$28 billion, \$19.7 billion, and \$20.4 billion, on September 15, 16, and 17, until Barclays replaced the Fed in providing financing. Valukas, 4:1399. See also David Weisbrod, senior vice president, Treasury and Securities Services—Risk Management, JPMorgan Chase & Co., email to James Dimon et al., “Re: TriParty Close,” September 15, 2008.
15. Thomas A. Russo, former vice chairman and chief legal officer, Lehman Brothers, email to Richard S. Fuld Jr., forwarding article by John Brinsley (originally sent to Russo by Robert Steel), “Paulson Says Investment Banks Making Progress in Raising Funds,” Bloomberg, June 13, 2008 (quoting Robert Steel), June 13, 2008.

16. Richard S. Fuld Jr., interview by FCIC, April 28, 2010.
17. Valukas, 2:713 and nn. 2764–65, 2:715 and n. 2774. See also Russo, email to Fuld, “Fw: Rumors of hedge fund putting together a group to have another run at Lehman,” March 20, 2008 (forwarding discussions with SEC regarding short sellers).
18. Dan Chaudoin, Bruce Karpati, and Stephanie Shuler, Division of Enforcement, SEC, interview by FCIC, April 6, 2010; Mary L. Schapiro, chairman, SEC, written responses to written questions—specifically, response to question 13—from FCIC, asked after the hearing on January 14, 2010.
19. Jesse Eisinger, “The Debt Shuffle: Wall Street Cheered Lehman’s Earnings, but There Are Questions about Its Balance Sheet,” *Portfolio.com*, March 20, 2008.
20. David Einhorn, Greenlight Capital, “Private Profits and Socialized Risk,” speech at Grant’s Spring Investment Conference, April 8, 2008, p. 9. See also David Einhorn, “Accounting Ingenuity,” speech at Ira W. Sohn Investment Research Conference, May 21, 2008, pp. 3–4.
21. Nell Minow, interview by FCIC, September 13, 2010.
22. Nell Minow, testimony before the House Committee on Oversight and Government Reform, Hearing on Lehman Brothers, 110th Cong., 2nd sess., October 6, 2008.
23. Kirsten J. Harlow, email to Timothy Geithner et al., “On-Site Primary Dealer Update: June 16,” June 16, 2008.
24. William Dudley, email to Timothy Geithner, Donald Kohn, and others, June 17, 2008.
25. Kirsten J. Harlow, email to Kevin D. Coffey, examining officer, FRBNY, et al., “On-Site Primary Dealer Update: June 19,” June 19, 2008.
26. Thomas Fontana, Citigroup, email to Christopher M. Foskett, Citigroup, et al., June 12, 2008.
27. Tim Clark, Federal Reserve, email to Kevin Coffey, Federal Reserve, et al., June 20, 2008.
28. Federal Reserve Bank of New York, “Primary Dealer Monitoring: Liquidity Stress Analysis,” June 25, 2008.
29. Based on chart in Federal Reserve Bank of New York, “Developing Metrics for the Four Largest Securities Firms,” August 2008, p. 9.
30. Federal Reserve Bank of New York, “Primary Dealer Monitoring: Liquidity Stress Analysis,” June 25, 2008.
31. Karl Mocharko, assistant vice president and senior trader, Federated Investors, Inc., email to Gail Shanley, Federated Investors, Inc., et al., “Re: Federated SubCustodial Agreement—JPMC’s comments,” July 10, 2008; Charles Witek, Federated Investors, Inc., email to George V. Van Schaick, Lehman Brothers, et al., “FW: Federated SubCustodial Agreement—JPMC’s comments,” April 23, 2008. Despite the FRBNY’s observation, Federated did not fully terminate its repo relationships with Lehman. In fact, as of September 12, Federated’s repo exposure to Lehman was \$2 billion, as reported in the Commission’s Market Risk Survey of money market mutual funds.
32. Patrick M. Parkinson, email to David Marshall, et al., July 11, 2008; David Marshall, email to Patrick M. Parkinson, July 11, 2008.
33. Valukas, 4:1497–98 (quoting Timothy Geithner); see also Bart McDade, president and chief operating officer, Lehman Brothers, interview by FCIC, April 16, 2010.
34. William Dudley, email to Geithner et al., “Re: Lehman Good Bank/Bad Bank idea discussed last night,” July 15, 2008.
35. Patrick M. Parkinson, email to Steven Shafran, Department of the Treasury, et al., “Fw: Gameplan and Status to Date,” August 19, 2008.
36. Patrick M. Parkinson, email to Steven Shafran, August 11, 2008.
37. Patrick M. Parkinson, email to Arthur Angulo, Theodore Lubke, Til Schuermann, and William Brodows, August 15, 2010.
38. William Brodows, email to Patrick Parkinson, August 15, 2008.
39. *Ibid.*
40. *Ibid.*
41. Parkinson, email to Steven Shafran, August 19, 2008.
42. *Ibid.*
43. Steven Shafran, email to Patrick M. Parkinson, August 28, 2008.
44. Patrick M. Parkinson, email to Theodore Lubke, September 5, 2008.

45. Emil Cornejo, senior vice president, Department of the Treasury, Lehman Brothers, email to Janet Birney, senior vice president, Department of the Treasury, Lehman Brothers, et al., "JP Morgan Agenda forwarded for our review. FYI," September 3, 2008. See Lehman Briefing Memorandum, September 4, 2008; JP Morgan Agenda, September 4, 2008.

46. Meg McConnell, FRBNY, email to Arthur Angulo et al., "Meeting tomorrow at 9:00," September 8, 2008.

47. *Ibid.*

48. Patrick M. Parkinson, email to Steven Shafran, "Re: now I am on a conf call," September 9, 2008.

49. Henry M. Paulson Jr., *On the Brink: Inside the Race to Stop the Collapse of the Global Financial System* (New York: Business Plus, 2010), p. 178; Rita C. Proctor, assistant to the chairman, Board of Governors of the Federal Reserve, email to Donald L. Kohn et al., "This evening's conference call will take place at 5 P.M. instead of 6 P.M.," September 9, 2008.

50. Jim Wilkinson, email to Michele Davis, September 9, 2008.

51. Barry Zubrow, interview by FCIC, August 19, 2010.

52. Paul, Weiss, counsel to Steven Black, letter to FCIC, August 27, 2007, written responses to FCIC questions in email of August 26, 2007, p. 6.

53. John J. Hogan, JPMorgan Chase & Co., email to Steven D. Black, September 9, 2008, 7:07 P.M.; Steven Black, email to John Hogan, September 9, 2008, 8:24 P.M. See also Valukas, 4:1139, 1140 and n. 4204, and 1141.

54. Complaint, *In re Lehman Brothers Holdings, Inc.*, et al., against JPMorgan Chase Bank, N.A., Chapter 11 Case No. 08-13555 (JMP) (Bankr. S.D.N.Y. May 26, 2010), pp. 14–15 (hereafter cited as Lehman Complaint).

55. *Ibid.*

56. Black responses, August 27, 2010, p. 6.

57. Matthew Rutherford, email to Tony Ryan, Department of the Treasury, et al., September 10, 2008.

58. Mark VanDerWeide, assistant general counsel, Board of Governors of the Federal Reserve System, email to Scott G. Alvarez, general counsel, Board of Governors of the Federal Reserve System, "lehman," September 10, 2008.

59. Patricia Mosser, email to William Dudley et al., "thoughts on Lehman," September 10, 2008.

60. See Michael Nelson, counsel and vice president, FRBNY, email to Christine Cumming, first vice president, FRBNY, et al., "revised Liquidation Consortium gameplan + questions," September 10, 2008, (attaching game plan).

61. See Patrick M. Parkinson, email to Donald Kohn et al., "Fw: revised Liquidation Consortium gameplan + questions," September 11, 2008 (attaching game plan).

62. *Ibid.*; Thomas Baxter, interview by FCIC, August 11, 2010.

63. Ken Lewis, interview by FCIC, October 22, 2010.

64. Susan McCabe, Goldman Sachs Group, Inc., email to William Dudley et al., "Hope you have the Radar screens on early this morning," September 11, 2008.

65. Rita C. Proctor, email to Bernanke, "Fw: Financial Markets Conference Call 9/11/08," September 11, 2008 (forwarding to Chairman Bernanke materials for the conference call).

66. Hayley Boesky, vice president, Markets Group, FRBNY, email to Meg McConnell et al., forwarding Louis Bacon, email to Hayley Boesky, "FW: Options for short-circuiting the market," September 11, 2008, 10:46 A.M.

67. Email chain between Jamie McAndrews, Tobias Adrian, Patrick Parkinson and Jeff Stehm, subject: "Fw: Default Management Group 9 Sep 2008.doc," September 11, 2008.

68. Hayley Boesky, email to Debby Perelmuter, senior vice president, FRBNY, et al., "Panic," September 11, 2008.

69. Jane Buyers-Russo, managing director, JP Morgan, email to Paolo R. Tonucci, "Fw: Letter to Lehman," Sept. 11, 2008, (attaching JPMorgan Chase & Co.'s September 11, 2008, Notice to Lehman Brothers Holdings Inc.).

70. Jane Buyers-Russo, email to Bryn Thomas, executive director, Broker Dealer Group, JPMorgan Chase & Co., et al., "Re: Lehman Brothers TriParty Collateral," September 12, 2008.

71. Paolo R. Tonucci, interview by FCIC, August 6, 2010.

72. See Valukas, 4:1158–65, 1162 and n. 4304.

73. Lehman Complaint, pp. 22–23, paragraphs 68, 71.
74. Barry Zubrow, written testimony for the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 1, session 2: Lehman Brothers, September 1, 2010, p. 7.
75. Richard S. Fuld, interview by FCIC, August 24, 2010.
76. Lehman Complaint, p. 23, paragraph 70.
77. Jim Wilkinson, email to Abby Aderman, Russell Reynolds Associates, “Re: Paulson Statement on Treasury and FHFA Action to Protect Financial Markets and Taxpayers,” September 12, 2008.
78. Kevin M. Warsh, e-mail to J. Nellie Liang, senior associate director, Division of Research and Statistics, Board of Governors of the Federal Reserve System, September 12, 2008.
79. Valukas, 2:618.
80. Harvey R. Miller, interview by FCIC, August 5, 2010.
81. Tom Baxter, “Speaking notes: Financial Community Meeting,” attached to email from Helen Ayala, NYFRB, to Steven Shafron, Treasury, September 12, 2008.
82. Thomas C. Baxter, interview by FCIC, August 11, 2010.
83. H. Rodgin Cohen, interview by FCIC, August 5, 2010.
84. Parkinson, email to Kohn et al., September 11, 2008.
85. Financial Services Authority of the United Kingdom, “Statement of the Financial Services Authority” before the Lehman bankruptcy examiner, pp. 4–5, paragraph 23.
86. Paulson, *On the Brink*, p. 193.
87. Patrick M. Parkinson, email to Lucinda Brickler, senior vice president, payments policy, FRBNY, “Re: triparty repo thoughts for this weekend,” September 12, 2008.
88. Patrick M. Parkinson, interview by FCIC, August 24, 2010; see also Patrick M. Parkinson, email to Lucinda Brickler et al., “Re: another option we should present re triparty?” July 13, 2008.
89. John Thain, interview by FCIC, September 17, 2010.
90. Christopher Tsuboi, examiner, bank supervision/operational risk, FRBNY, email to Alejandro LaTorre, assistant vice president, Credit, Investment and Payment Risk Group, FRBNY, “memo re: Lehman’s inter-company default scenario,” September 13, 2008.
91. Scott Alvarez, email to Ben Bernanke et al., “Re: Fw: today at 7:00 p.m. w/Chairman Bernanke, Vice Chairman Kohn and Others,” September 13, 2008.
92. Scott Alvarez, email to Mark VanDerWeide, “Re: tri-party,” September 13, 2008.
93. Bart McDade, interview by FCIC, August 9, 2010.
94. Baxter, interview.
95. Paulson, *On the Brink*, p. 207.
96. Baxter, interview; Robert Diamond, interview by FCIC, November 15, 2010.
97. Paulson, *On the Brink*, pp. 212–13.
98. Financial Services Authority of the United Kingdom, “Statement of the Financial Services Authority” before the Lehman bankruptcy examiner, p. 9, paragraph 48.
99. Paulson, *On the Brink*, pp. 209–10. See also Baxter, interview.
100. Baxter, interview.
101. Jim Wilkinson, email to Jes Staley, September 14, 2008, 7:46 A.M.
102. Jim Wilkinson, email to Jes Staley, September 14, 2008, 9:00 A.M.
103. Paulson, *On the Brink*, p. 210.
104. Alistair Darling, quoted in United Kingdom Press Association, “Darling Vetoes Lehman Bros Takeover,” *Belfast Telegraph*, October 9, 2010.
105. H. Rodgin Cohen, interview by FCIC, August 5, 2010.
106. Bart McDade, interview by FCIC, August 9, 2010.
107. Alex Kirk, interview by FCIC, August 16, 2010; McDade, interview, August 9, 2010.
108. Baxter, interview.
109. Thomas C. Baxter, letter to FCIC, October 15, 2010, attaching Exhibit 6, James P. Bergin, email to William Dudley et al., “Bankruptcy,” September 14, 2008. See also Kirk, interview.
110. *Ibid.*, attaching Exhibit 5, Lehman Brothers Holdings Inc., “Minutes of the Board of Directors, September 14, 2008,” p. 2.
111. *Ibid.*, attaching Exhibits 2 and 8.

112. On September 15, 2008, LBI borrowed \$28 billion from PDCF against \$31.7 billion of collateral; on September 16, 2008, LBI borrowed \$19.7 billion against \$23 billion of collateral; and on September 17, 2008, LBI borrowed \$20.4 billion against \$23.3 billion of collateral. See Valukas, 4:1399 and nn. 5374–75.
113. Kirk, interview.
114. Miller, interview.
115. Kirk, interview.
116. Miller, interview. In his interview, Kirk told FCIC staff that he thought there were more than 1 million derivatives contracts.
117. McDade, interview, August 9, 2010.
118. Baxter, interview.
119. Harvey R. Miller, written testimony for the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 1, session 2: Lehman Brothers, September 1, 2010, p. 8.
120. Miller, interview.
121. *Ibid.*
122. *Ibid.*
123. Ben S. Bernanke, closed-door session with FCIC, November 17, 2009.
124. *Ibid.*
125. Henry M. Paulson Jr., written testimony for the FCIC, Hearing on the Shadow Banking System, day 2, session 1: Perspective on the Shadow Banking System, May 6, 2010, p. 55.
126. Miller, written testimony for the FCIC, September 1, 2010, p. 14.
127. *Ibid.*, p. 18.
128. *Ibid.*, pp. 6, 12–13, 15, 11, 15.
129. Bernanke, testimony before the FCIC, September 2, 2010, transcript, p. 23.
130. Ben Bernanke, email to Kevin Warsh, member, Board of Governors of the Federal Reserve System, September 14, 2008.
131. Bernanke, testimony before the FCIC, September 2, 2010, p. 22.
132. *Ibid.*, p. 24.
133. Ben Bernanke, “U.S. Financial Markets,” testimony before the Senate Committee on Banking, Housing, and Urban Affairs, 110th Cong., 2nd sess., September 23, 2008.
134. 12 U.S.C. § 343(A), as added by act of July 21, 1932 (47 Stat. 715); and amended by acts of August 23, 1935 (49 Stat. 714), December 19, 1991 (105 Stat. 2386), and July 21, 2010 (124 Stat. 2113).
135. Scott G. Alvarez et al., memorandum, “Authority of the Federal Reserve to provide extensions of credit in connection with a commercial paper funding facility (CPFF),” March 9, 2009, p. 7.
136. Fuld, written testimony for the FCIC, September 1, 2010, pp. 7, 6, 3.
137. Bernanke, closed-door session with FCIC.
138. Ben S. Bernanke, chairman of the Federal Reserve, letter to Phil Angelides, chairman of the FCIC, December 21, 2010.
139. Thain, interview.
140. *Ibid.*
141. *Ibid.*
142. Dimon, interview.
143. Scott G. Alvarez, testimony before the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 1, session 1: Wachovia Corporation, September 1, 2010, transcript, p. 95. See also Baxter, letter to FCIC, October 15, 2010, p. 6.

### Chapter 19

1. Federal Reserve Bank of New York, notes about AIG meeting, September 12, 2008.
2. *Ibid.*
3. *Ibid.*
4. “AIG Commercial Paper Outstanding & Maturities—week of Sept 15th,” September 16, 2008, produced by JPMorgan.
5. American International Group, Inc., Form 10-Q for the quarterly period ended June 30, 2008.

6. FRBNY, notes about AIG meeting.
7. Goldman Sachs International, Collateral Invoice (margin call) to AIG Financial Products Corp., July 27, 2007; data on collateral exposures and multisector CDOs supplied by AIG (see Timeline of Goldman Sachs/AIG collateral calls, pp. 50, 392, 404, available at the FCIC website at <http://fcic.gov/hearings/pdfs/2010-0701-AIG-Goldman-supporting-docs.pdf>); FRBNY, notes about AIG meeting.
8. Alejandro LaTorre, email to Christine Cumming, Timothy Geithner, William Dudley, et al., "Update on AIG," September 12, 2008.
9. FRBNY, notes about AIG meeting.
10. Mark Hutchings, interview by FCIC, June 22, 2010.
11. Eric Dinallo, testimony before the FCIC, Hearing on the Role of Derivatives in the Financial Crisis, day 2, session 2: Derivatives: Supervisors and Regulators, July 1, 2010, transcript, pp. 3,16.
12. Michael Moriarty, testimony before the Congressional Oversight Panel, Hearing on American International Group, 111th Cong., 2nd sess., May 26, 2010, p. 4.
13. Dinallo, testimony before the FCIC, July 2, 2010, pp. 16–17.
14. FRBNY, notes about AIG meeting.
15. *Ibid.*
16. "Systemic Impact of AIG Bankruptcy," attachment to FRBNY internal email from Alejandro LaTorre to Timothy Geithner, September 16, 2008.
17. FRBNY, internal memo about August 11, 2008, meeting with the AIG team of the Office of Thrift Supervision.
18. *Ibid.*
19. FRBNY, internal document about AIG, August 14, 2008.
20. *Ibid.*
21. Goldman Sachs, company update on AIG, August 18, 2008.
22. Ira Selig, email to Kevin Coffey, "Goldman Report on AIG," August 18, 2008.
23. FRBNY, internal document about AIG, September 2, 2008.
24. *Ibid.*
25. *Ibid.*; Goldman Sachs, company update on AIG, August 18, 2008.
26. FRBNY, notes about AIG meeting, September 12, 2008.
27. *Ibid.*
28. "AIG Commercial Paper Outstanding & Maturities—week of Sept 15th," September 16, 2008.
29. FRBNY, notes about AIG meeting, September 12, 2008.
30. Hayley Boesky, email to Bill Dudley et al., "AIG panic," September 12, 2008.
31. FRBNY, emails of September 12 and 13, 2008.
32. Thomas Baxter, interview by FCIC, April 30, 2010.
33. Robert Willumstad, interview by FCIC, November 15, 2010.
34. Patricia Mosser, email to Alejandro LaTorre et al., re: AIG/Board call, September 13, 2008, 12:54 P.M.
35. Patricia Mosser, email to Alejandro Latorre et al., September 13, 2008, 7:26 P.M.
36. FRBNY, internal memo about AIG, September 14, 2008.
37. Adam Ashcraft, email to Alejandro LaTorre et al., "AIG and the discount window," September 14, 2008.
38. Alejandro LaTorre, email to Adam Ashcraft et al., September 14, 2008.
39. *Ibid.*
40. J. C. Flowers, interview by FCIC, October 7, 2010.
41. Robert Willumstad, interview by FCIC, November 15, 2010.
42. *Ibid.*
43. Goldman Sachs International, Collateral Invoice to AIG Financial Products Group, September 15, 2008.
44. Data supplied by AIG (Tab 31 of the AIG/Goldman Sachs collateral call timeline).
45. Baxter, interview.
46. See Sarah Dahlgren, FRBNY, interview by FCIC, April 30, 2010.
47. *Ibid.*
48. Alexander J. Psomas, email to NY Bank Sup AIG Monitoring and Analysis, September 15, 2005.

49. Fed Chairman Ben Bernanke, letter to FCIC Chairman Phil Angelides, December 21, 2010.
50. Federal Reserve Board of Governors, press release, September 16, 2008.
51. Congressional Oversight Panel, "The AIG Rescue, Its Impact on Markets, and the Government's Exit Strategy," June 10, 2010, p. 98.
52. *Ibid.*, executive summary, pp. 1, 8.
53. Treasury spokesman Andrew Williams, quoted in Hugh Son, "AIG's Rescue Had 'Poisonous' Effect, U.S. Panel Says (Update1)," *Bloomberg*, June 10, 2010.
54. Scott M. Polakoff, "American International Group's Impact on the Global Economy: Before, during, and after Federal Intervention," testimony before the House Committee on Financial Services, Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises, 111th Cong., 1st sess., March 18, 2009.
55. John Reich, interview by FCIC, May 4, 2010.
56. Michael E. Finn, prepared testimony before the Congressional Oversight Panel, May 26, 2010.
57. C. K. Lee, interview by FCIC, April 28, 2010. See also Memorandum of Understanding between Scott M. Albinson, managing director, OTS, and Danièle Nouy, secrétaire général de la Commission Bancaire, April 11, 2005.
58. OTS, Memo to Commission Bancaire regarding its supervisory role, January 2005.
59. Reich, interview.
60. Joseph Gonzalez, interview by FCIC, May 7, 2010.
61. *Ibid.*
62. OTS, Targeted Review of AIG Financial Products Corp., July 13, 2007.
63. AIG/Goldman Sachs collateral call timeline, p. 50.
64. Brad Waring, interview by FCIC, May 7, 2010.
65. Reich, interview.
66. *Ibid.*

### Chapter 20

1. John J. Mack, written testimony for the FCIC, First Public Hearing of the FCIC, day 1, panel 1: Financial Institution Representatives, January 13, 2010, p. 6.
2. Jamie Dimon, interview by FCIC, October 20, 2010.
3. Timothy Geithner, interview by FCIC, November 17, 2009.
4. Timothy Geithner, quoted by Robert Schmidt, "Geithner Slams Bonuses, Says Banks Would Have Failed (Update2)," *Bloomberg*, December 4, 2009.
5. Ben Bernanke, closed-door session with FCIC, November 17, 2009.
6. Specifically, the Fed broadened the PDCF to match the types of collateral that the two major clearing banks accepted in the tri-party repo system, including non-investment-grade securities and equities; previously, PDCF collateral had been limited to investment-grade debt securities. The Fed similarly broadened the TSLF to include all investment-grade debt securities; previously, TSLF collateral had been limited to Treasury securities, agency securities, and AAA-rated mortgage-backed and asset-backed securities. The Fed also increased both the frequency of TSLF auctions, to weekly instead of every two weeks, and their size. Federal Reserve Board press release, September 14, 2008.
7. On September 30, Goldman Sachs had a \$15 billion balance in TSLF, and a \$16.5 billion balance in PDCF. Federal Reserve Board, "Regulatory Reform: Usage of Federal Reserve Credit and Liquidity Facilities," PDCF.
8. Lehman initially asserted that there were around 930,000 derivative transactions at the time of bankruptcy. See Debtors' Motion for an Order pursuant to Sections 105 and 365 of the Bankruptcy Code to Establish Procedures for the Settlement or Assumption and Assignment of Prepetition Derivatives Contracts, *Lehman Brothers Holdings Inc., et al*, No. 08-13555 (Bankr. S.D.N.Y. Nov. 13, 2008), p. 4. See also Anton R. Valukas, Report of Examiner, *In re Lehman Brothers Holdings Inc., et al.*, Chapter 11 Case No. 08-13555 (JMP), (Bankr. S.D.N.Y.), March 11, 2010, 2:573. By November 13, 2008, a special facility to unwind derivatives trades with Lehman had successfully terminated most of the 930,000 derivative contracts. Nevertheless, in January 2009, Lehman's counsel reported that 18,000 derivatives contracts had not been terminated. Moreover, there are massive unresolved claims relating to over-the-counter derivatives in the bankruptcy proceeding: as of May 2010, banks had filed more than \$50 billion in claims for losses related to derivatives contracts with Lehman. See Debtors' Motion for an Order pursuant to



Sections 105 and 365 of the Bankruptcy Code to Establish Procedures for the Settlement or Assumption and Assignment of Prepetition Derivatives Contracts, Lehman Brothers Holdings Inc., et al., No. 08-13555 (Bankr. S.D.N.Y. Nov. 13, 2008) [Docket No. 1498], p. 4; Debtors' Motion for an Order Approving Consensual Assumption and Assignment of Prepetition Derivatives Contracts, Lehman Brothers Holdings Inc., et al., No. 08-13555 (Bankr. S.D.N.Y. Jan. 16, 2009) [Docket No.2561], p. 3.

9. Money market fund holdings of all types of taxable commercial paper decreased from \$671 billion at the end of August 2008 to \$505 billion at the end of September (data provided by ICI/Crane to the FCIC). BNY Mellon, in its role as tri-party clearing bank, reported that Treasury-backed repos rose from \$195 billion (13%) to \$466 billion (27%) of its tri-party business between March 31 and December 31, 2008 (data provided by BNY Mellon to the FCIC).

10. Harvey Miller, interview by FCIC, August 5, 2010.

11. The Reserve Fund, Semi-annual report to shareholders, March 2006.

12. Complaint, SEC v. Reserve Management Company Inc., Resrv Partners Inc., Bruce Bent Sr., Bruce Bent II, and The Reserve Primary Fund (S.D.N.Y. May 5, 2009), p. 12 (para. 35); "Fidelity, BlackRock, Dreyfus, Reserve Make Big Gains Past 12 Months," Crane Data News Archives, September 12, 2008.

13. The Reserve Primary Fund management, interview by FCIC, March 25, 2010.

14. SEC Complaint against Reserve Management Company Inc., pp. 2, 18 (paras. 3, 59), p. 30 (para. 101); The Reserve, "The Primary Fund: Plan of Liquidation and Distribution of Assets," December 3, 2008, p. 2.

15. SEC Complaint, pp. 26–33 (paras. 88–113); The Reserve, "The Primary Fund: Plan of Liquidation," p. 2.

16. SEC Complaint, p. 35 (para. 121). The SEC notes that the Primary Fund likely broke the buck prior to 11:00 A.M. on September 16 because of the redemption requests and the valuation of Lehman's debt; moreover, RMCi announced on November 26, 2008, that owing to an administrative error, its NAV should have been calculated as \$0.99 between 11:00 A.M. and 4:00 P.M. on September 16 (pp. 34–33, paras. 119, 120).

17. Moody's Investors Service articles, "Sponsor Support Key to Money Market Funds," August 9, 2010, p. 4; "Moody's Proposes New Money Market Fund Rating Methodology and Symbols," September 7, 2010.

18. Patrick McCabe and Michael Palumbo, interview by FCIC, September 28, 2010.

19. *Ibid.*

20. Investment Company Institute, Historical Weekly Money Market Data. While nongovernment funds lost \$434 billion during the period between September 10 and October 1, 2008, government funds—investing in Treasuries and GSE debt—increased by \$357 billion during the same period.

21. McCabe and Palumbo, interview.

22. FCIC survey of money market mutual funds. Holdings for the five firms decreased from \$58 billion to \$29 billion from September 12, 2008, to September 19, 2008. See FCIC website for details.

23. Timothy Geithner, testimony before the FCIC, Hearing on the Shadow Banking System, day 2, session 2: Perspective on the Shadow Banking System, May 6, 2010, transcript, p. 135.

24. McCabe and Palumbo, interview.

25. "Treasury Announces Guaranty Program for Money Market Funds," Treasury Department press release, September 19, 2008. President George W. Bush approved the use of existing authorities by Secretary Henry M. Paulson Jr. to make available as necessary the assets of the Exchange Stabilization Fund (ESF) for up to \$50 billion to guarantee payments to support money market mutual funds. The original objective of the ESF, established by the Gold Reserve Act of 1934, was to stabilize the value of the dollar in the depths of the Depression. It authorized the treasury secretary, with the approval of the president, to "deal in gold, foreign exchange, and other instruments of credit and securities" to promote international financial stability.

26. The program was called the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF).

27. Neel Kashkari, interview by FCIC, November 2, 2010.

28. John Mack, interview by FCIC, November 2, 2010.

29. New York Federal Reserve, internal email, October 22, 2008, p. 2.

30. David Wong, email to Fed and SEC officials, September 15, 2008.

31. Jonathan Stewart, FRBNY, internal email, September 17, 2008.
32. One year later, the Senior Supervisors Group—a cross-agency task force looking back on the causes of the financial crisis—would write, “Before the crisis [at the investment banks post-Lehman], many broker-dealers considered the prime brokerage business to be either a source of liquidity or a liquidity-neutral business. As a result, the magnitude and unprecedented severity of events in September–October 2008 were largely unanticipated.” Senior Supervisors Group, “Risk Management Lessons from the Global Banking Crisis of 2008,” October 21, 2009, p. 9.
33. Jonathan Wood, Whitebox Advisors, interview by FCIC, August 11, 2010.
34. The FCIC surveyed hedge funds that survived the crisis. Those in the three largest quartiles ranked by size received investor redemption requests averaging 20% of their assets in the fourth quarter of 2008 (the first available redemption date after the Lehman bankruptcy).
35. IFSL Research, “Hedge Funds 2009,” April 2009.
36. David Wong, treasurer of Morgan Stanley, interview by FCIC, October 15, 2010.
37. Mack, interview.
38. Wong, interview.
39. Patrice Maher (Morgan Stanley), email to William Brodows (Federal Reserve BNY) et al., September 28, 2008, with data in an attachment. Hedge fund values are the Prime Brokerage Outflows (NY+International).
40. Wong, interview.
41. Matthew Eichner, internal email, September 16, 2008.
42. Angela Miknius, email to NY Bank Sup, September 18, 2008.
43. Amy G. White, internal NYFRB email, September 19, 2008.
44. Morgan Stanley, “Liquidity and Financing Activity: 08/28/08,” “Liquidity and Financing Activity: 09/18/08,” “Liquidity and Financing Activity: 10/03/08,” reports to the New York Federal Reserve.
45. Morgan Stanley Corporate Treasury, “Meeting with Federal Reserve: September 20, 2008,” attachment to Morgan Stanley email to NYFRB, September 20, 2008, including “Forward Forecast.”
46. Morgan Stanley Corporate Treasury, “Liquidity Landscape: 09/12–09/18/2008,” in attachment to Morgan Stanley email to NYFRB, September 20, 2008; Amy White, internal NYFRB emails, September 16 and 19, 2008.
47. Lloyd Blankfein, testimony before the FCIC, First Public Hearing of the FCIC, day 1, panel 1: Financial Institution Representatives, January 13, 2010, transcript, pp. 34–35.
48. Bernanke, closed-door session.
49. Thomas Baxter, interview by FCIC, April 30, 2010.
50. The switch to bank holding company status required a simple charter change. Both Morgan and Goldman already owned banks that they had chartered as industrial loan companies, a type of bank that is allowed to accept FDIC-insured deposits without having any Fed supervision over the bank’s parent or other affiliated companies.
51. Federal Reserve, “Discount Window Payment System Risk: Getting Started,” last updated November 17, 2009.
52. Mack, interview.
53. Mack, interview.
54. Wong, interview.
55. Amy G. White, internal FRBNY email, September 19, 2008.
56. It should be borne in mind that lack of regulation of this market rendered it extremely opaque. Shortcomings in transparency, lack of reporting requirements, and limited data collection by third parties make it difficult to document and describe the various market trading problems that emerged during the crisis.
57. Michael Masters, testimony before the FCIC, Hearing on the Role of Derivatives in the Financial Crisis, day 1, session 1: Overview of Derivatives, June 30, 2010, transcript, p. 26.
58. Depository Trust and Clearing Corporation data provided to the FCIC.
59. “The Global OTC Derivatives Market at End-June 1998,” Bank of International Settlements press release, December 13, 1998; “OTC derivatives market activity in the second half of 2008,” Bank of International Settlements press release, May 9, 2009, p. 7.

60. "Triennial and Regular OTC Derivatives Market Statistics," Bank of International Settlements press release, November 16, 2010, p. 7.
61. Moody's, "Moody's downgrades WaMu Ratings; outlook negative," September 11, 2008.
62. "OTS Fact Sheet on Washington Mutual Bank," OTS 08-046A, September 25, 2008, p. 3.
63. Jamie Dimon, interview by FCIC, October 20, 2010.
64. Sheila Bair, testimony before the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 2: session 2: Federal Deposit Insurance Corporation, September 2, 2010, exchange between Bair and Commissioner Douglas Holtz-Eakin, pp. 134, 149.
65. Scott Alvarez, testimony before the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 1, Session 1: Wachovia Corporation, September 1, 2010, transcript, p. 84.
66. Kashkari, interview.
67. Greg Feldberg, "Wachovia Case Study," presentation at LBO Supervision Conference, November 12-13, 2008, Atlanta, Georgia, p. 15. These rules, embodied in section 23A of the Federal Reserve Act, limit the support that a depository institution can provide to related companies in the same corporate structure; they are aimed at protecting FDIC-insured depositors from activities that occur outside of the bank itself. Exemptions have the effect of funding affiliate, nonbank assets within the federal safety net of insured deposits; they create liquidity for the parent company and/or key affiliates (and reduce bank liquidity) during times of market stress.
68. Robert Steel, interview by FCIC, August 18, 2010.
69. Scott Alvarez, written testimony for the FDIC, September 1, 2010, p. 4.
70. Robert Steel, written testimony before the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 1, session 1: Wachovia Corporation, September 1, 2010, p. 2.
71. David Wilson, interview by FCIC, August 4, 2010.
72. Sheila Bair, interview by FCIC, August 18, 2010.
73. Richard Westerkamp, Federal Reserve Bank of Richmond, interview by FCIC, August 13, 2010.
74. Wachovia was unable to roll \$1.1 billion of asset-backed commercial paper that Friday; James Wigand and Herbert Held, memo to the FDIC Board of Directors, September 29, 2008, p. 2. On brokered certificates of deposit, see Westerkamp, interview.
75. John Corston, acting deputy director, Division of Supervision and Consumer Protection, FDIC, written testimony before the FCIC, Hearing on Too Big to Fail: Expectations and Impact of Extraordinary Government Intervention and the Role of Systemic Risk in the Financial Crisis, day 1, Session 1: Wachovia Corporation, September 1, 2010, p. 4.
76. Wilson, interview.
77. Rich Westerkamp, email to FCIC, November 2, 2010. Westerkamp said that the estimate of early redemption requests was based on a phone conversation with officials in Wachovia's treasury department, describing their conversations with investors; the figures were never verified.
78. Bair, interview.
79. Robert Steel, interview by FCIC, August 18, 2010.
80. Bair, interview; Steel, interview; FDIC staff, interview by FCIC re Wachovia, July 16, 2010.
81. Alvarez, written testimony for the FCIC, September 1, 2010, p. 5.
82. Steel, interview.
83. *Ibid.*
84. Wigand and Held, memo to the FDIC board, September 29, 2008, pp. 2, 4-5.
85. Federal Reserve staff, memo to the Board of Governors, subject: "Considerations Regarding Invoking the Systemic Risk Exception for Wachovia Bank, NA," September 28, 2008, p. 7.
86. John A. Beebe, Market Risk Team Leader, Federal Reserve Bank of Richmond, memo to Jennifer Burns, VP-LCBO, "Wachovia Large Funds Providers," September 27, 2008, pp. 1-2.
87. Federal Reserve staff, memo to the Board of Governors, subject: "Considerations Regarding Invoking the Systemic Risk Exception for Wachovia Bank, NA," September 28, 2008, p. 7.
88. Bair, interview; minutes of the telephonic meeting of Federal Deposit Insurance Corporation Board of Directors, September 29, 2008, p. 8.

89. Bair, interview.

90. FDIC memo to the FDIC Board of Directors, p. 8; Corston, written testimony for the FDIC, September 1, 2010, p. 10.

91. Specifically, under Wachovia's proposal, the FDIC would provide credit protection on \$200 billion of loans, while Wachovia would absorb the first \$25 billion in losses and the FDIC would potentially incur losses on the balance of the \$200 billion. To offset that risk, Wachovia proposed that the FDIC receive \$10 billion in preferred stock and warrants on common shares (FDIC memo to the FDIC Board of Directors, p. 8).

92. The FDIC board has five members: the comptroller of the currency, the director of OTS, and three other members appointed by the president. In *Too Big to Fail: The Inside Story of How Wall Street and Washington Fought to Save the Financial System from Crisis—and Themselves* (New York: Viking, 2009), Andrew Ross Sorkin (p. 497) wrote that before the September 29, 2008, FDIC board meeting, New York Federal Reserve Governor Geithner and other officials had a conference call with Bair (Paulson recused himself) during which Geithner urged Bair to help Citigroup acquire Wachovia by guaranteeing some of its potential losses. Geithner argued that allowing the FDIC to take over Wachovia would have the effect of wiping out shareholders and bond holders, which, he was convinced, would only spook the markets. He was still furious with Bair for the way she had abruptly taken over Washington Mutual, which had had a deleterious effect on investor confidence.

93. Federal Deposit Insurance Corporation Board of Directors meeting, September 29, 2008, transcript, pp. 21–22.

94. Minutes of telephonic meeting of the FDIC board, September 29, 2008, p. 8.

95. *Ibid.*; the \$34.6 billion figure is as of September 30, 2008 (FDIC staff, memo to the Board of Directors, subject: "Third Quarter 2008 CFO Report to the Board," November 21, 2008, p. 1).

96. Minutes of telephonic meeting of the FDIC board, September 29, 2008, p. 8.

97. Bair, interview.

98. Steel, written testimony for the FCIC, September 1, 2010, p. 4. On the board's vote and the agreement in principle, see Steel, interview; see also Affidavit of Robert K. Steel, dated October 5, 2008, filed in *Wachovia Corp. v. Citigroup, Inc.*, Case No. 08-cv-085093-SAS (S.D.N.Y.), pp. 3–4 and exhibit A.

99. Fed Chairman Ben Bernanke, letter to FCIC Chairman Phil Angelides, December 21, 2010.

100. Wachtell, Lipton, Rosen & Katz, on behalf of Wells, letter to Division of Corporation Finance, SEC, November 17, 2008, p. 3.

101. Richard Kovacevich, interview by FCIC, August 24, 2010.

102. Bair, interview.

103. Steel, interview.

104. Bair, interview. In his interview, Treasury's Kashkari told the FCIC that he disagreed. He felt that the highest priority was to transfer the risk of banks' troubled assets from the financial system to the government. Citigroup's FDIC-assisted acquisition would have removed potential losses on \$270 billion of assets from the financial system by transferring those potential losses to the FDIC.

105. "Wells Fargo, Wachovia Agree to Merge: Creating Premier Coast-To-Coast Financial Services Franchise without Government Assistance," Wells Fargo press release, October 3, 2008.

106. Rich Delmar, Treasury Office of the Inspector General, interview by FCIC, August 25, 2010; Rich Delmar, memorandum for Inspector General Eric M. Thorson, "Inquiry Regarding IRS Notice 2008-83," September 3, 2009, pp. 3, 5, 11–12.

107. Richard Levy, interview by FCIC, August 19, 2010.

108. "Statement by Secretary Henry M. Paulson, Jr. on Comprehensive Approach to Market Developments," Treasury Department press release, September 19, 2008.

109. Senators Christopher J. Dodd and Richard C. Shelby, remarks before the Senate Committee on Banking, Housing, and Urban Affairs, *Turmoil in U.S. Credit Markets: Recent Actions Regarding Government-Sponsored Entities, Investment Banks, and Other Financial Institutions*, 110th Cong., 2nd sess., September 23, 2008, transcript, pp. 3, 6.

110. Secretary Henry Paulson, testimony before the Senate Banking Committee, *Turmoil in the U.S. Credit Markets*, transcript, p. 37.

111. Fed Chairman Ben Bernanke, "Economic Outlook," testimony before the Joint Economic Committee, 110th Cong., 2nd sess., September 24, 2008, transcript.

112. Fed Chairman Ben Bernanke, testimony before the House Financial Services Committee, *The Future of Financial Services: Exploring Solutions for the Market Crisis*, September 24, 2008, transcript, p. 48.

113. Mel Martinez, interview by FCIC, September 28, 2010.

114. The TARP legislation, drafted as the Emergency Economic Stabilization Act of 2008, was coupled in Public Law 110-343 with several other vote-attracting acts, including the Energy Improvement and Extension Act of 2008, the Tax Extenders and Alternative Minimum Tax Relief Act of 2008, the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008, and the Heartland and Hurricane Ike Disaster Relief Act of 2008. Congress originally said that the deposit insurance cap would revert to \$100,000 at the beginning of 2010, but later extended the deadline through the end of 2013.

115. The quotation is part of the formal title of Public Law 110-343, of which the TARP legislation—officially named the Emergency Economic Stabilization Act of 2008—is a part.

116. “Board Announces Creation of the Commercial Paper Funding Facility (CPFF) to Help Provide Liquidity to Term Funding Markets,” Federal Reserve Board press release, October 7, 2008. The CPFF complemented the Fed’s other commercial paper program, the AMLF, which was created shortly after the Reserve Primary Fund broke the buck. While the AMLF targeted money market mutual funds, the CPFF aimed to create liquidity for qualified commercial paper issuers.

117. Federal Reserve Board, “Commercial Paper Funding Facility (CPFF).”

118. Ken Lewis from Bank of America, Robert Kelly from BNY Mellon, Vikram Pandit from Citigroup, Lloyd Blankfein from Goldman, Jamie Dimon from JP Morgan, John Thain from Merrill, John Mack from Morgan Stanley, Ronald Logue from State Street, and Richard Kovacevich from Wells.

119. Paulson, testimony before the FCIC, May 6, 2010, transcript, p. 70. Former assistant treasury secretary Phillip Swagel argued, “There is no authority in the United States to force a private institution to accept government capital” (“The Financial Crisis: An Inside View,” Brookings Papers on Economic Activity, conference draft, Spring 2009, pp. 33–34).

120. Henry Paulson, *On The Brink: Inside the Race to Stop the Collapse of the Global Financial System* (New York: Business Plus, 2010), p. 365.

121. Dimon, interview.

122. The Temporary Liquidity Guarantee Program consisted of two programs, the Temporary Debt Guarantee Program (TDGP) and the Transaction Account Guarantee Program (TAGP). The TDGP at its highest point in May 2009 guaranteed \$346 billion in outstanding senior debt; see “FDIC Announces Plan to Free Up Bank Liquidity,” FDIC press release, October 14, 2008. The TAGP guaranteed \$834 billion in deposits at the end of 2009.

123. “Factsheet on Capital Purchase Program,” FinancialStability.gov, updated October 3, 2010.

124. “Remarks by Secretary Henry M. Paulson, Jr. on Financial Rescue Package and Economic Update,” Treasury Department press release, November 12, 2008.

125. Paulson, testimony before the FCIC, May 6, 2010, transcript, p. 70.

126. U.S. Treasury Department Office of Financial Stability, “Troubled Asset Relief Program”; Transactions Report for Period Ending December 31, 2008: Capital Purchase Program; “Factsheet on Capital Purchase Program.”

127. U.S. Treasury Department Office of Financial Stability, “Troubled Asset Relief Program: Transactions Report for Period Ending October 15, 2010: Capital Purchase Program.”

128. Office of the Special Inspector General for the Troubled Asset Relief Program, “Initial Report to the Congress,” February 6, 2009, p. 6.

129. Congressional Oversight Panel, “September Oversight Report: Assessing the TARP on the Eve of Its Expiration,” September 16, 2010, p. 27.

130. Office of Financial Stability, “Troubled Asset Relief Program: Two Year Retrospective,” October 2010, pp. 15, 51; AIG, “What AIG Owes the U.S. Government,” updated September 30, 2010.

131. Congressional Oversight Panel, “September Oversight Report,” p. 27; Office of Financial Stability, “Troubled Asset Relief Program: Two Year Retrospective,” p. 18; “Taxpayers Receive \$10.5 Billion in Proceeds Today from Final Sale of Treasury Department Citigroup Common Stock,” Treasury Department press release, December 10, 2010.

132. Office of the Special Inspector General for the Troubled Asset Relief Program, “Quarterly Report to Congress,” October 26, 2010, table 2.1, p. 46 (obligation figures as of October 3, 2010, and expenditure figures as of September 30, 2010).

133. The money market funding is through the Asset-backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF); FCIC staff calculations.

134. Board of Governors of the Federal Reserve System, “Regulatory Reform: Agency Mortgage-backed Securities (MBS) Purchase Program.”

135. The Fed had created the first Maiden Lane vehicle in March to take \$29 billion in assets off the balance sheet of Bear Stearns, as described in chapter 15. See “AIG RMBS LLC Facility: Terms and Conditions,” December 16, 2008; “AIG Discloses Counterparties to CDS, GIA and Securities Lending Transactions,” AIG press release, March 15, 2009, Attachment D: Payments to AIG Securities Lending Counterparties.

136. Federal Reserve Bank of New York, “Maiden Lane III: Transaction Overview”; Federal Reserve and Treasury Department press release, November 10, 2008; “AIG CDO LLC Facility: Terms and Conditions,” Federal Reserve Bank of New York press release, December 3, 2008; FRBNY, “Maiden Lane Transactions.” \$27.1 billion was paid to 16 counterparties and \$2.5 billion was paid to AIGFP as an adjustment to reflect overcollateralization.

137. Office of the Special Inspector General for the Troubled Asset Relief Program, “Factors Affecting Efforts to Limit Payments to AIG Counterparties,” SIGTARP-10-003, November 17, 2009, pp. 19–20.

138. Blankfein, testimony before the FCIC, January 13, 2010, transcript, pp. 90–93.

139. Data provided to Goldman Sachs to the FCIC.

140. David Viniar, testimony before the FCIC, Hearing on the Role of Derivatives in the Financial Crisis, day 2, session 1: American International Group, Inc. and Goldman Sachs Group, Inc., July 1, 2010, transcript, p. 148.

141. Goldman Sachs, email to FCIC, July 15, 2010.

142. Ibid.; and data provided by Goldman Sachs to the FCIC.

143. SIGTARP, “Factors Affecting Efforts to Limit Payments to AIG Counterparties,” pp. 15–16, 18. The report said counterparties insisted on 100% coverage because (1) concessions “would mean giving away value and voluntarily taking a loss, in contravention of their fiduciary duty to their shareholders”; (2) they had a “reasonable expectation” that AIG would not default on further obligations, given the government assistance; (3) costs already incurred to protect against a possible AIG default “would be exacerbated if they were paid less than par value”; and (4) they were “contractually entitled” to receive the par value of the credit default swap contracts.

144. “In other words, the decision to acquire a controlling interest in one of the world’s most complex and most troubled corporations was done with almost no independent consideration of the terms of the transaction or the impact that those terms might have on the future of AIG” (ibid., p. 28).

145. Ibid., summary, p. 1.

146. Congressional Oversight Panel, “June Oversight Report: The AIG Rescue, Its Impact on Markets, and the Government’s Exit Strategy,” June 10, 2010, pp. 10, 8.

147. Suzanne Kapner, “US Congressional Panel Attacks AIG Rescue,” *Financial Times*, June 10, 2010.

148. Baxter, interview.

149. Sarah Dahlgren, interview by FCIC, April 30, 2008.

150. SIGTARP, “Factors Affecting Efforts to Limit Payments to AIG Counterparties,” p. 29.

151. Timothy Geithner, quoted in Jody Shenn, Bob Ivry, and Alan Katz, “AIG 100-Cents Fed Deal Driven by France Belied by French Banks,” *Bloomberg Businessweek*, January 20, 2010.

152. E.g., Baxter, interview; Jim Mahoney, Federal Reserve Bank of New York, interview by FCIC, April 30, 2010; Michael Alix, Federal Reserve Bank of New York, interview by FCIC, April 30, 2010.

153. Dahlgren, interview.

154. Baxter, interview.

155. GAO, “Federal Financial Assistance: Preliminary Observations on Assistance Provided AIG,” GAO-09-4907 (Testimony: Before the Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises, House Committee on Financial Services), March 18, 2009, p. 2; Federal Reserve press release, September 16, 2008.

156. AIG, “What AIG Owes the US Government,” updated September 30, 2010.



157. Edward J. Kelly III, interview by FCIC, March 3, 2010.
158. Roger Cole, interview by FCIC, August 2, 2010.
159. Kelly, interview.
160. James R. Wigand and Herbert J. Held, memorandum to the FDIC Board of Directors, regarding recommendation for systemic risk determination for Citigroup, November 23, 2008, p. 5.
161. Kelly, interview.
162. Mark D. Richardson, email to John H. Corston, Jason C. Cave, et al., subject: "RE: CONFIDENTIAL—Citigroup—Deterioration of Stock Price and CDS Spreads," November 20, 2008; Mark D. Richardson, email, to John H. Corston, Jason C. Cave, et al., subject: "11-21-08 Citi Liquidity call notes," November 21, 2008.
163. Wigand and Held, November memo to the FDIC board regarding Citigroup, p. 5.
164. Bernanke, closed-door session.
165. Arthur J. Murton, email to John V. Thomas, Michael H. Krimminger, et al., subject: "RE: Proposed Conduit," November 22, 2008; Michael H. Krimminger, email to Arthur J. Murton, John V. Thomas, et al., subject: "RE: Proposed Conduit," November 22, 2008.
166. Vikram Pandit, testimony before the Congressional Oversight Panel, *Citigroup and the Troubled Asset Relief Program*, 111th Cong., 2nd sess., March 4, 2010, transcript, p. 79.
167. Kelly, interview.
168. GAO, "Federal Deposit Insurance Act: Regulators' Use of Systemic Risk Exception Raises Moral Hazard Concerns and Opportunities Exist to Clarify the Provision," GAO-10-100 (Report to Congressional Committees), April 2010, p. 2.
169. Wigand and Held, memo to the FDIC board regarding Citigroup, pp. 9, 10.
170. Department of the Treasury response to Congressional Oversight Panel, Questions for the Record, p. 3, *Citigroup and the Troubled Asset Relief Program*, March 4, 2010, p. 44.  
"Joint Statement by Treasury, Federal Reserve, and the FDIC on Citigroup," joint press release, November 23, 2008.
171. "Joint Statement on Citigroup."
172. In total, Citigroup received almost \$40 billion in capital benefits from the November 2008 government assistance. Half of the capital benefits were from Treasury's \$20 billion TARP investment in Citigroup preferred stock; \$16 billion of the capital benefits were derived from a change in the risk weighting of the ring-fenced assets. In addition, Citigroup issued Treasury and the FDIC \$7 billion in preferred stock as payment for the guarantee on the ring fence; the result, after accounting for the insurance feature of the arrangement, was a \$3.5 billion increase in capital for Citigroup.
173. Kelly, interview.
174. The warrants gave the government the right to buy 254 million shares at \$10.61 a share; at the time, the stock was trading at \$3.76 (Congressional Oversight Panel, "November Oversight Report: Guarantees and Contingent Payments in TARP and Related Programs," November 6, 2009, pp. 18–19).
175. FDIC Board of Directors meeting, closed session, November 23, 2008, transcript, p. 14.
176. *Ibid.*, pp. 27–28.
177. Office of Financial Stability, "Troubled Asset Relief Program: Two Year Retrospective," October 2010, p. 30; "Taxpayers receive \$10.5 billion in proceeds today from final sale of Treasury Department Citigroup common stock," Treasury Department press release, December 10, 2010.
178. "Merrill Lynch Reports Third Quarter 2008 Net Loss from Continuing Operations of \$5.1 Billion," Merrill Lynch press release, October 16, 2008, p. 4; Merrill Lynch, 3Q 2008 Earnings Call transcript, October 16, 2008, p. 2.
179. Federal Reserve System, "Order Approving Bank of America Corporation Acquisition of a Savings Association and an Industrial Loan Company," November 26, 2008, pp. 7, 9. To approve such a proposal, the Bank Holding Company Act requires the Fed to determine that a transaction "can reasonably be expected to produce benefits to the public, such as greater convenience, increased competition, or gains in efficiency, that outweigh possible adverse effects, such as undue concentration of resources, decreased or unfair competition." 12 U.S.C. 1843(j)(2)(A).
180. Timothy J. Mayopoulous, former general counsel of Bank of America, written testimony before the House Oversight Committee, *Bank of America and Merrill Lynch: How Did a Private Deal Turn into a Federal Bailout? Part IV*, 111th Cong., 1st sess., November 17, 2009.



181. Ken Lewis, deposition *In Re: Executive Compensation Investigation: Bank of America–Merrill Lynch*, February 26, 2009, p. 9, available from House Committee on Oversight and Government Reform and the Subcommittee on Domestic Policy, *Bank of America and Merrill Lynch: How Did A Private Deal Turn into a Federal Bailout?* 111th Cong., 1st sess., June 11, 2009.

182. Bank of America, 4Q 2008 Earnings Call transcript, January 16, 2009, p. 16.

183. *Ibid.*, pp. 3, 10, 16.

184. John Thain, interview by FCIC, September 17, 2009.

185. Complaint, SEC v. Bank of America (S.D.N.Y. Jan. 12, 2010); Final Consent Judgment As to Defendant Bank of America (S.D.N.Y. Feb. 4, 2010).

186. Ken Lewis, interview by FCIC, October 22, 2010.

187. Lewis, deposition *In Re: Executive Compensation Investigation: Bank of America—Merrill Lynch*, pp. 34, 38; Henry Paulson, written testimony before the House Committee on Oversight and Government Reform and the Subcommittee on Domestic Policy, *Bank of America and Merrill Lynch: How Did a Private Deal Turn into a Federal Bailout? Part III*, 111th Cong., 1st sess., July 16, 2009, p. 22.

188. Paulson, written testimony before the House Oversight Committee, July 16, 2009, p. 23 (quotation); Ben Bernanke, written testimony before the House Committee on Oversight and Government Reform and the Subcommittee on Domestic Policy, *Bank of America and Merrill Lynch: How Did a Private Deal Turn into a Federal Bailout? Part II*, 111th Cong., 1st sess., June 25, 2009, p. 18.

189. Lewis, interview.

190. Thain, interview

191. Paulson, written testimony before the House Oversight Committee, July 16, 2009, pp. 19, 25.

192. Chairman Ben Bernanke, email to General Counsel Scott Alvarez, “Re: Fw: BAC,” December 23, 2008, available from House Oversight Committee, *Bank of America and Merrill Lynch: How Did a Private Deal Turn into a Federal Bailout? Part II*, June 25, 2009, p. 73; Representative Edolphus Towns, in *ibid.*, p. 2.

193. Lewis, interview.

194. Minutes of a Special Meeting of Board of Directors of Bank of America Corporation, December 22, 2008, available in House Committee on Oversight and Government Reform, June 11, 2009, p. 183.

195. Minutes of a Special Meeting of the Bank of America board, December 30, 2008, available in *ibid.*, p. 188.

196. Lewis, interview.

197. See Department of the Treasury, Office of Financial Stability, “Troubled Assets Relief Program: Transactions Report, for Period Ending November 16, 2010,” November 18, 2010. In addition to drawing on these funds, it was also a “substantial user” of the Fed’s various liquidity programs. The holding company and its subsidiaries had already borrowed \$55 billion through the Term Auction Facility. It had also borrowed \$15 billion under the Fed’s Commercial Paper Funding Facility and \$20 billion under the FDIC’s debt guarantee program. And newly acquired Merrill Lynch had borrowed another \$21 billion from the Fed’s two Bear Stearns–era repo-support programs. Yet despite Bank of America’s recourse to these programs, the regulators worried that it would experience liquidity problems if the fourth-quarter earnings were weak.

198. The amount of FDIC-guaranteed debt that can be issued by each eligible entity, or its cap, is based on the amount of senior unsecured debt outstanding as of September 30, 2008.

199. FRB and OCC staff, memorandum to Rick Cox, FDIC, subject: “Bank of America Corporation (BAC) Funding Vulnerabilities and Implications for Other Financial Market Participants,” January 10, 2009, p. 2.

200. Sheila C. Bair, FDIC Chairman, written testimony before the House Committee on Oversight and Government Reform and the Subcommittee on Domestic Policy, *Bank of America and Merrill Lynch: How Did a Private Deal Turn into a Federal Bailout? Part V*, 110th Cong., 1st sess., December 11, 2009, p. 2.

201. FRB and OCC staff memo to Rick Cox, “Bank of America Corporation (BAC) Funding Vulnerabilities,” pp. 2, 4; Mitchell Glassman, Sandra Thompson, Arthur Murton, and John Thomas, memorandum to the FDIC Board of Directors, subject: Bank of America, etc., January 15, 2009, pp. 8, 9.

202. Bair, written testimony before the House Oversight Committee, December 11, 2009, p. 3.

203. Glassman et al., memo to the FDIC board, January 15, 2009, p. 3. They agreed to this 25/75 split because 25% of the assets for the ring fence were from depository institutions and 75% were not. See closed meeting of the FDIC Board of Directors, January 15, 2009, transcript, p. 18.

204. Closed meeting of the FDIC board, January 15, 2009, transcript, p. 24. According to the FDIC staff, “Liquidity pressure may increase to critical levels following the announcement of fourth quarter 2008 operating results that are significantly worse than market expectations. Market reaction to BAC’s operating results may have systemic consequences given the size of the institution and the volume of counterparty transactions involved. Without a systemic risk determination . . . significant market disruption may ensue as counterparties lose confidence in BAC’s ability to fund ongoing operations. . . . [Economic developments] point to a clear relationship between the financial market turmoil of recent months and impaired economic performance that could be expected to worsen further if BAC and its insured subsidiaries were allowed to failed. Such an event would significantly undermine business and consumer confidence.” Glassman et al., memo to the FDIC board, January 15, 2009, pp. 13–14.

### Chapter 21

1. Brian Moynihan, written testimony for the FCIC, First Public Hearing of the Financial Crisis Inquiry Commission, day 1, session 1: Financial Institution Representatives, January 13, 2010, p. 1.
2. Clarence Williams, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Sacramento, session 4: Impact of the Financial Crisis on Sacramento Neighborhoods and Families, September 23, 2010, p. 8; and testimony before the FCIC, transcript, pp. 259–60.
3. Ed Lazear, interview by FCIC, November 10, 2010.
4. Jeannie McDermott, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Greater Bakersfield, session 6: Forum for Public Comment, September 7, 2010, transcript, pp. 211–13.
5. Marie Vasile, testimony before the FCIC, in *ibid.*, transcript, pp. 244–51.
6. “National Delinquency Survey,” Mortgage Bankers Association, Fourth Quarter 2007, March 2008, p. 4; Third Quarter 2010, November 2010, p. 4.
7. CoreLogic, “U.S. Housing and Mortgage Trends: August 2010,” November 2010, p. 5.
8. Jeremy Aguero, principal analyst, Applied Analysis, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—State of Nevada, session 1: Economic Analysis of the Impact of the Financial Crisis on Nevada, September 8, 2010, p. 3.
9. Mauricio Soto, “How Is the Financial Crisis Affecting Retirement Savings?” Urban Institute, December 10, 2008, available at [www.urban.org/url.cfm?ID=901206](http://www.urban.org/url.cfm?ID=901206).
10. Steven K. Paulson, “Auditors Say Colorado Pension Plan Recovering,” Associated Press, August 16, 2010.
11. Charles S. Johnson, “Montana Pension Funds Growing but Haven’t Made Up Losses,” *The Billings Gazette*, May 18, 2009.
12. The Conference Board news release, May 27, 2008.
13. The Conference Board news release, December 28, 2010.
14. Gregory D. Bynum, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Greater Bakersfield, session 3: Residential and Community Real Estate, September 7, 2010, transcript, p. 102.
15. Board of Governors of the Federal Reserve System, October 2010 Senior Loan Officer Opinion Survey on Bank Lending Practices, Net Percentage of Domestic Respondents Tightening Standards on Consumer Loans, Credit Cards, November 8, 2010.
16. American Bankruptcy Institute, “Annual Business and Non-business Filings by Year (1980–2009).”
17. Jeff Agosta, conference call with FCIC, February 25, 2010.
18. American Bankruptcy Institute, “Annual Business and Non-Business Filings by Year (1980–2009).”
19. Board of Governors of the Federal Reserve System, July 2007 Senior Loan Officer Opinion Survey on Bank Lending Practices, August 13, 2007, p. 13.
20. Liz Moyer, “Revolver at the Heads,” *Forbes*, October 7, 2008. Gannett Corporation withdrew \$1.2 billion, FairPoint Communications withdrew \$200 million, and Duke Energy withdrew \$1 billion.
21. Murillo Campello, John R. Graham, and Campbell R. Harvey, “The Real Effects of Financial Constraints: Evidence from a Financial Crisis,” *Journal of Financial Economics* 97 (2010): 476.

22. Board of Governors of the Federal Reserve System, January 2009 Senior Loan Officer Opinion Survey, fourth-quarter 2008, p. 8.
23. Elizabeth Duke, governor, Federal Reserve Board, "Small Business Lending," testimony before the House Committee on Financial Services and Committee on Small Business, February 26, 2010, p. 1.
24. National Federation of Independent Businesses, "NFIB Small Business Economic Trends," December 2010, p. 12.
25. Ben Bernanke, "Restoring the Flow of Credit to Small Business," speaking at the Federal Reserve Meeting Series: "Addressing the Financing Needs of Small Businesses," Washington, DC, July 12, 2010.
26. C. R. "Rusty" Cloutier, past chairman, Independent Community Bankers of America, testimony before the FCIC, First Public Hearing of the FCIC, day 1, panel 3: Financial Crisis Impacts on the Economy, January 13, 2010, transcript, p. 194.
27. Federal Reserve Statistical Release, E.2 Survey of Terms of Business Lending, E.2 Chart Data: "Commercial and Industrial Loan Rates Spreads over Intended Federal Funds Rate, by Loan Size," spread for all sizes.
28. William J. Dennis Jr., "Small Business Credit in a Deep Recession," National Federation of Independent Businesses, February 2010, p. 18.
29. Jerry Jost, interview by FCIC, August 20, 2010.
30. Board of Governors of the Federal Reserve System, Senior Loan Officer Opinion Survey on Bank Lending Practices, April 2010.
31. Board of Governors of the Federal Reserve System, Senior Loan Officer Opinion Survey on Bank Lending Practices, July 2010.
32. Emily Maltby, "Small Biz Loan Failure Rate Hits 12%," CNN Money, February 25, 2009; "SBA Losses Climb 154% in 2008," Coleman Report ([www.colemanpublishing.com/public/343.cfm](http://www.colemanpublishing.com/public/343.cfm)).
33. Michael A. Neal, chairman and CEO, GE Capital, testimony before the FCIC, Hearing on the Shadow Banking System, day 2, session 3: Institutions Participating in the Shadow Banking System, May 6, 2010, transcript, p. 242.
34. GE, 2008 Annual Report, p. 38.
35. Mark S. Barber, testimony before the FCIC, Hearing on the Shadow Banking System, day 2, session 3: Institutions Participating in the Shadow Banking System, May 6, 2010, transcript, p. 263.
36. International Monetary Fund, International Financial Statistics database, World Exports.
37. International Monetary Fund, International Financial Statistics, World Tables: Exports, World Exports.
38. Jane Levere, "Office Deals, 19 Months Apart, Show Market's Move," *New York Times*, August 10, 2010.
39. National Association of Realtors, Commercial Real Estate Quarterly Market Survey, December 2010, pp. 4, 5.
40. Brian Gordon, principal, Applied Analysis, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—State of Nevada, session 3: The Impact of the Financial Crisis on Nevada Real Estate, September 8, 2010, transcript, p. 155.
41. Anton Troianovski, "High Hopes as Builders Bet on Skyscrapers," *Wall Street Journal*, September 29, 2010.
42. *Ibid.*; Gregory Bynum, president, Gregory D. Bynum & Associates, Inc., testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Greater Bakersfield, session 3: Residential and Community Real Estate, September 7, 2010, transcript, pp. 77–80, 77–78.
43. Federal Deposit Insurance Commission, "Failed Bank List," January 2, 2010.
44. February Oversight Report, "Commercial Real Estate Losses and the Risk to Financial Stability," Congressional Oversight Panel, February 10, 2010, pp. 2, 41, 45.
45. TreppWire, "CMBS Delinquency Rate Nears 9%, Up 21 BPs in August after Leveling in July, Rate Now 8.92%" Monthly Delinquency Report, September 2010, p. 1.
46. Allen Kenney, "CRE Mortgage Default Rate to Double by 2010," REIT.com, June 18, 2009. See also "Default Rates Reach 16-Year High," *Globe St.*, February 24, 2010.
47. *Ibid.* Green Street Advisors, "Commercial Property Values Gain More Than 30% from '09 Lows," December 2, 2010, pp. 3, 1.

48. “Moody’s/REAL Commercial Property Price Indices, December 2010,” Moody’s Investors Service Special Report, December 21, 2010; Moody’s Investors Service, “US Commercial Real Estate Prices Rise 1.3% in October,” December 20, 2010.
49. Congressional Oversight Panel, “Commercial Real Estate Losses,” February Oversight Report, February 10, 2010, pp. 2–3.
50. Dr. Kenneth T. Rosen, chairman, Fisher Center for Real Estate and Economics, University of California at Berkeley, slides in testimony before the FCIC, First Public Hearing of the FCIC, day 1, panel 3: Financial Crisis Impacts on the Economy, January 13, 2010.
51. Elizabeth McNichol, Phil Oliff, and Nicholas Johnson, “States Continue to Feel Recession’s Impact,” Center on Budget and Policy Priorities, December 16, 2010.
52. Bruce Wagstaff, Sacramento Countywide Services Agency, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Sacramento, session 4: The Impact of the Financial Crisis on Sacramento Neighborhoods and Families, September 23, 2010, transcript, p. 234.
53. Sujit CanagaRetna, interview by FCIC, November 18, 2010.
54. McNichol, Oliff, and Johnson, “States Continue to Feel Recession’s Impact.”
55. “NCSL Fiscal Brief: Projected State Revenue Growth in FY 2011 and Beyond,” National Conference of State Legislatures, September 29, 2010, p. 1.
56. *Ibid.*
57. State of California, Legislative Analyst’s Office, “The 2011–12 Budget: California’s Fiscal Outlook.”
58. Kaiser Commission on Medicaid and the Uninsured, “Medicaid Enrollment: December 2009 Data Snapshot,” September 2010, pp. 1, 3.
59. Kaiser Commission on Medicaid and the Uninsured, “Hoping for Economic Recovery, Preparing for Health Reform: A Look at Medicaid Spending, Coverage and Policy Trends,” September 30, 2010, pp. 16, 25.
60. National League of Cities, “Recession’s Effects Intensify in Cities,” October 6, 2010.
61. Christopher W. Hoene and Michael A. Pagano, “City Fiscal Conditions in 2010,” National League of Cities, October 2010, p. 3.
62. *Ibid.*, pp. 7, 2.
63. Alan S. Blinder and Mark Zandi, “How the Great Recession Was Brought to an End,” Moody’s Analytics, July 27, 2010, p. 1.
64. Donald L. Kohn, vice chairman, Federal Reserve Board of Governors, “The Federal Reserve’s Policy Actions during the Financial Crisis and Lessons for the Future,” speech at Carleton University, Ottawa, Canada, May 13, 2010.
65. U.S. Department of the Treasury, Office of Financial Stability, “Troubled Asset Relief Program: Two Year Retrospective,” October 2010, p. 8.
66. Congressional Budget Office, “Report on the Troubled Asset Relief Program,” November 2010.
67. White House Office of Management and Budget, FY2011 Budget Historical Tables, Section 1, Table 1.1—Summary of Receipts, Outlays, and Surpluses or Deficits (–):1789–2015, Total Budget Deficit.
68. FDIC, “Failed Bank List.”
69. “Quarterly Banking Profile: Third Quarter 2010,” *FDIC Quarterly* 4, no. 4 (2010): 4.
70. FDIC, “Quarterly Banking Profile: First Quarter 2009,” *FDIC Quarterly* 3, no. 2 (2009): 1, and “Quarterly Banking Profile: First Quarter 2010,” *FDIC Quarterly* 4, no. 2 (2010); Board of Governors of the Federal Reserve System, Profit and Balance Sheet Developments at U.S. Commercial Banks in 2009.
71. FDIC, Statistics on Depository Institutions, Income and Expense, All Commercial Banks—Assets more than \$1B—National, Standard Report #1 (reports issued on 3/31/2010 and 3/31/2009). Profit is logged as “Net income attributable to bank.”
72. FDIC, Statistics on Depository Institutions, Income and Expense, All Commercial Banks—Assets less than \$100M and Assets \$100M to \$1B; Standard Report #1 (reports issued on 3/31/2010 and 3/31/2009). Profit is logged as “Net income attributable to bank.”
73. “Wall Street Bonuses Rose Sharply in 2009,” New York State Comptroller Thomas P. DiNapoli press release, February 23, 2010.
74. N.Y. State Comptroller Thomas P. DiNapoli, “Economic Trends in New York State,” October 2010.

### Chapter 22

1. FCIC calculations based on estimates from Hope Now and Moodys.com.
2. Mortgage Bankers Association National Delinquency Survey (the source for the rest of the delinquency and foreclosure rates in this chapter).
3. Julia Gordon, Center for Responsible Lending, “HAMP, Servicer Abuses, and Foreclosure Prevention Strategies,” testimony before the Congressional Oversight Panel for the Troubled Asset Relief Program (TARP), COP Hearing on TARP Foreclosure Mitigation Programs, 111th Cong., 2nd sess., October 27, 2010, pp. 5, 30; CRL testimony based on Rod Dubitsky, Larry Yang, Stevan Stevanovic, and Thomas Suehr, “Foreclosure Update: Over 8 Million Foreclosures Expected,” Credit Suisse (December 4, 2008), and Jan Hatzius and Michael A. Marschoun, “Home Prices and Credit Losses: Projections and Policy Options,” Goldman Sachs Global Economics Paper (January 13, 2009), p. 16.
4. “RealtyTrac Year-End Report Shows Record 2.8 Million U.S. Properties with Foreclosure Filings in 2009—An Increase of 21 Percent from 2008 and 120 Percent from 2007,” RealtyTrac, January 14, 2010.
5. “Delinquencies and Loans in Foreclosure Decrease, but Foreclosure Starts Rise in Latest MBA National Delinquency Survey,” MBA press release, November 18, 2010.
6. Mark Fleming, chief economist, CoreLogic, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—Sacramento, session 1: Overview of the Sacramento Housing and Mortgage Markets and the Impact of the Financial Crisis on the Region, September 23, 2010, transcript, p. 14.
7. FCIC staff estimates based on analysis of BlackBox data.
8. Laurie S. Goodman, senior managing director, Amherst Securities Group LP, written testimony before the House Financial Services Committee, *The Private Sector and Government Response to the Mortgage Foreclosure Crisis*, 111th Cong., 1st sess., December 8, 2009, p. 3.
9. The index declined from 200.4 in April 2006 to 136.6 in March 2009, a decline of 31.8%.
10. “New CoreLogic Data Shows Third Consecutive Quarterly Decline in Negative Equity,” CoreLogic Inc., December 13, 2010, p. 1; nationally, third-quarter figures were an improvement from 11.0 million residential properties—23%—in negative equity in the second quarter of 2010.
11. Jim Rokakis, treasurer of Cuyahoga County, Ohio, interview by FCIC, November 8, 2010.
12. Cuyahoga County experienced 13,943 foreclosure filings in 2006, 14,946 in 2007, 13,858 in 2008, and 14,171 in 2009. “Ohio County Foreclosure Filings (1995–2009): Cuyahoga County,” Policy Matters Ohio.
13. Rokakis, interview.
14. The United States Conference of Mayors, “Impact of the Mortgage Foreclosure Crisis on Vacant and Abandoned Properties in Cities: A 77-City Survey,” June 2010, pp. 3–4.
15. Guy Cecala, prepared testimony for the Congressional Oversight Panel for the Troubled Asset Relief Program (TARP), COP Hearing on TARP Foreclosure Mitigation Programs, 111th Cong., 2nd sess., October 27, 2010, p. 2.
16. John Taylor, interview by FCIC, October 27, 2010.
17. Congressional Oversight Panel, “December Oversight Report: A Review of Treasury’s Foreclosure Prevention Programs,” December 14, 2010, pp. 4, 7, 18.
18. HOPE NOW, “Industry Extrapolations and Metrics (October 2010),” December 6, 2010, p. 3.
19. New Jersey HomeKeeper Program, New Jersey Housing and Mortgage Financing Agency, approved September 23, 2010.
20. Kirsten Keefe, presentation to the meeting of the Federal Reserve System’s Consumer Advisory Council, Washington, D.C., March 25, 2010, transcript, p. 34.
21. Diane E. Thompson, testimony to the Senate Committee on Banking, Housing, and Urban Affairs, *Problems in Mortgage Servicing from Modification to Foreclosure*, 111th Cong., 2nd sess., November 16, 2010, p. 3.
22. See, for example, National Consumer Law Center, “Why Servicers Foreclose When They Should Modify and Other Puzzles of Servicer Behavior,” October 2009.

23. Joseph H. Evers, Office of the Comptroller of the Currency, deputy comptroller for large bank supervision, written testimony before the Congressional Oversight Panel for the Troubled Asset Relief Program (TARP), COP Hearing on TARP Foreclosure Mitigation Programs, 111th Cong., 2nd sess., October 27, 2010, pp. 7–10. The OCC reported that mortgage servicers have modified 1,239,896 loans since early 2008. By the end of the second quarter of 2010, more than 26% of the modifications were seriously delinquent; 9% were in the process of foreclosure; and 4% had completed foreclosure. The OCC examined modified loans that were 60 or more days delinquent that were modified during the second quarter of 2009, to determine when after loan modification that serious delinquency recurred. At 12 months after modification, 43% of loans were delinquent by two or more months; at nine months after modification, 41% were in arrears; at six months, 34%; and at three months after a loan change, nearly 19% were delinquent. The OCC noted that more recent modifications have performed better than earlier modifications.

24. Julia Gordon, senior policy counsel, Center for Responsible Lending, written testimony before the Congressional Oversight Panel for the Troubled Asset Relief Program (TARP), COP Hearing on TARP Foreclosure Mitigation Programs, 111th Cong., 2nd sess., October 27, 2010, p. 11.

25. David J. Grais, partner with Grais & Ellsworth LLP, interview by FCIC, November 2, 2010.

26. Calculation by Laurie Goodman, senior managing director, Amherst Securities. See PowerPoint presentation to the Grais and Ellsworth LLP conference “Robosigners and Other Servicing Failures: Protecting the Rights of RMBS Investors,” October 27, 2010 (<http://video.remotecounsel.com/mediasite/Viewer/?peid=12e6411377a744b9a9f2eefd1093871c1d>).

27. Grais, interview.

28. Goodman testimony before the House Financial Services Committee, December 8, 2009.

29. See Deposition of Jeffrey Stephan, GMAC Mortgage LLC v. Ann M. Neu a/k/a Ann Michelle Perez, No. 50 2008 CA040805XXXX MB (Fla. Cir. Ct. Dec. 10, 2009), pp. 7, 10.

30. See, for example, Dwayne Ransom Davis and Melisa Davis v. Countrywide Home Loans, Inc.; Bank of America, N.A.; BAC GP LLC; and BAC Home Loans Servicing, LP, 1:10-cv-01303-JMS-DML (S.D. Ind. October 19, 2010).

31. Congressional Oversight Panel, “November Oversight Report: Examining the Consequences of Mortgage Irregularities for Financial Stability and Foreclosure Mitigation,” November 16, 2010, p. 20.

32. See, e.g., *Mortg. Elec. Registry Sys. v. Johnston*, No. 420-6-09 Rdcv (Rutland Co. Vt. Super. Ct. Oct. 28, 2009), holding that MERS did not have standing to initiate foreclosure because the note and mortgage had been separated.

33. The Honorable F. Dana Winslow, written testimony before the House Committee on the Judiciary, *Foreclosed Justice: Causes and Effects of the Foreclosure Crisis*, 111th Cong., 2nd sess., December 2, 2010, pp. 2, 4.

34. Order, *Objection to Claims of Citibank, N.A.* 4-6-10, (Bankr. E.D. Cal. May 20, 2010), p. 3. The order cites *In re Foreclosure Cases*, 521 F. Supp. 2d 650 (S.D. Oh. 2007); *In re Vargas*, 396 B.R. 511, 520 (Bankr. C.D. Cal. 2008); *Landmark Nat’l Bank v. Kesler*, 216 P.3d 158 (Kan. 2009); *LaSalle Bank v. Lamy*, 824 N.Y.S.2d 769 (N.Y. Sup. Ct. 2006).

35. Winslow, written testimony before the House Committee on the Judiciary, pp. 2–3.

36. See *John T. Kemp v. Countrywide Home Loans, Inc.*, Case No. 08-18700-JHW (D. N.J.), pp. 7–8.

37. Grais, interview.

38. Adam J. Levitin, associate professor of law, Georgetown University Law Center, testimony to Senate Committee on Banking, Housing, and Urban Affairs, *Problems in Mortgage Servicing from Modification to Foreclosure*, 111th Cong., 2nd sess., November 16, 2010, p. 20.

39. Congressional Oversight Panel, “November Oversight Report,” pp. 5, 7.

40. Katherine Porter, professor of law, University of Iowa College of Law, written testimony before the Congressional Oversight Panel for the Troubled Asset Relief Program (TARP), COP Hearing on TARP Foreclosure Mitigation Programs, October 27, 2010, p. 8.

41. Levitin, written testimony before the Senate Committee on Banking, Housing, and Urban Affairs, p. 20.

42. Erika Poethig, written testimony for the House Subcommittee on Housing and Community Opportunity, *Impact of the Foreclosure Crisis on Public and Affordable Housing in the Twin Cities*, 111th Cong., 2nd sess., January 23, 2010, p. 5.

43. National Association for the Education of Homeless Children and Youth (NAEHCY) and First Focus, "A Critical Moment: Child and Youth Homelessness in Our Nation's Schools," July 2010, p. 2. In early 2010, NAEHCY and First Focus conducted a survey of 2,200 school districts. When they were asked the reasons for the increased enrollment of students experiencing homelessness, 62% cited the economic downturn, 40% attributed it to greater school and community awareness of homelessness, and 38% cited problems stemming from the foreclosure crisis.

44. Dr. Heath Morrison, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—State of Nevada, session 4: The Impact of the Financial Crisis on Nevada Public and Community Services, September 8, 2010, transcript, pp. 261–64.

45. Gail Burks, testimony before the FCIC, Hearing on the Impact of the Financial Crisis—State of Nevada, session 3: The Impact of the Financial Crisis on Nevada Real Estate, September 8, 2010, transcript, pp. 230–31.

46. Karen Mann, president and chief appraiser, Mann and Associates Real Estate Appraisers & Consultants, written testimony for the FCIC, Hearing on the Impact of the Financial Crisis—Sacramento, session 2: Mortgage Origination, Mortgage Fraud and Predatory Lending in the Sacramento Region, September 23, 2010, p. 12; oral testimony, p. 66.

47. Dawn Hunt, homeowner in Cape Coral, FL, interview by FCIC, December 20, 2010.

48. Zip code 33991, default, foreclosures and REO, S&P Global Data Solutions RMBS database, July 2010.

49. Hunt, interview.



## INDEX

The index is available online at [www.publicaffairsbooks.com/fcindex.pdf](http://www.publicaffairsbooks.com/fcindex.pdf)