REVISITING THE CAUSES OF THE FINANCIAL CRISIS

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ABSTRACT

Much has been written on the legal causes of the financial crisis and its aftermath, often referred to as the Great Recession. Presumably the debate will continue for many years to come, much as scholars continue to debate the causes of the Great Depression. Lost, however, in the descriptions of arcane laws and complex derivative financial products, is a relatively brief and straightforward account of the crisis and its most likely causes for interested lawyers, law students, or graduate students who are not specialists and do not want to become specialists. This Essay, based on a presentation at the Indiana Law Review's 2013 Symposium, Law and the Financial Crisis, aims to provide such an overview.

INTRODUCTION

Not surprisingly, an enormous amount has been written on the causes of the financial crisis from both academics[1] and others.[2] Even the federal government's

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1. Prominent professors writing on the crisis include GEORGE A. AKERLOF & ROBERT A. SHILLER, ANIMAL SPIRITS: HOW HUMAN PSYCHOLOGY DRIVES THE ECONOMY, AND WHY IT MATTERS FOR GLOBAL CAPITALISM (2009); ALAN S. BLINDER, AFTER THE MUSIC STOPPED: THE FINANCIAL CRISIS, THE RESPONSE, AND THE WORK AHEAD (2013); ROSS GARNAUT & DAVID LLEWELLYN-SMITH, THE GREAT CRASH OF 2008 (2009); GARY B. GORTON, SLAPPED BY THE INVISIBLE HAND: THE PANIC OF 2007 (2010); SIMON JOHNSON & JAMES KWAK, 13 BANKERS: THE WALL STREET TAKEOVER AND THE NEXT FINANCIAL MELTDOWN (2010); RAGHURAM RAJAN, FAULT LINES: HOW HIDDEN FRACTURES STILL THREATEN THE WORLD ECONOMY (2010); CARMEN M. REINHART & KENNETH S. ROGOFF, THIS TIME IS DIFFERENT: EIGHT CENTURIES OF FINANCIAL FOLLY (2009); NOURIEL ROUBINI & STEPHEN MIHM, CRISIS ECONOMICS: A CRASH COURSE IN THE FUTURE OF FINANCE (2010); ROBERT J. SHILLER, THE SUBPRIME SOLUTION: HOW TODAY'S GLOBAL FINANCIAL CRISIS HAPPENED AND WHAT TO DO ABOUT IT (2008); JOSEPH E. STIGLITZ, FREEFALL: AMERICA, FREE MARKETS, AND THE SINKING OF THE WORLD ECONOMY (2010); and JOHN B. TAYLOR, GETTING OFF TRACK: HOW GOVERNMENT ACTIONS AND INTERVENTIONS CAUSED, PROLONGED AND WORSENED THE FINANCIAL CRISIS (2009). If you were interested enough to read one book about the financial crisis, but only one, Alan Blinder's book would be an excellent choice.

2. Journalists on the financial crisis include: JOHN CASSIDY, HOW MARKETS FAIL: THE LOGIC OF ECONOMIC CALAMITIES (2009); WILLIAM D. COHAN, HOUSE OF CARDS: A TALE OF HUBRIS AND WRETCHED EXCESS ON WALL STREET (2009); GREG FARRELL, CRASH OF THE TITANS:

principle analysis of the crisis has become a best seller.[3] Most of these publications, however, focus heavily on single causes, have political axes to grind, concentrate on personalities rather than policies, were published before enough of the facts became well-known, or assume a high-level of background knowledge and expertise. There is far less available material for educated and interested—but non-specialist—lawyers, law students, or graduate students that succinctly analyzes and explains potential causal legal factors. This short essay attempts to provide this analysis and explanation.[4]

At one level, the financial crisis was just like many others in U.S. history.[5] Too many creditors simultaneously sought the return of their assets. Two words, "bank run," get to the core of the financial crisis.[6] At another level, however, what made this crisis different was the focus on the "shadow banking system"—institutions and transactions outside the regular banking system.[7]

GREED, HUBRIS, THE FALL OF MERRILL LYNCH, AND THE NEAR-COLLAPSE OF BANK OF AMERICA (2010); MICHAEL LEWIS, THE BIG SHORT: INSIDE THE DOOMSDAY MACHINE (2010); ROGER LOWENSTEIN, THE END OF WALL STREET (2010); BETHANY MCLEAN & JOE NOCERA, ALL THE DEVILS ARE HERE: THE HIDDEN HISTORY OF THE FINANCIAL CRISIS (2010); GRETCHEN MORGENSON & JOSHUA ROSNER, RECKLESS ENDANGERMENT: HOW OUTSIZED AMBITION, GREED, AND CORRUPTION LED TO ECONOMIC ARMAGEDDON (2011); ANDREW ROSS SORKIN, TOO BIG TO FAIL: THE INSIDE STORY OF HOW WALL STREET AND WASHINGTON FOUGHT TO SAVE THE FINANCIAL SYSTEM FROM CRISIS—AND THEMSELVES (2009).

3. THE FINANCIAL CRISIS INQUIRY COMM'N, THE FINANCIAL CRISIS INQUIRY REPORT: FINAL REPORT OF THE NATIONAL COMMISSION ON THE CAUSES OF THE FINANCIAL AND ECONOMIC CRISIS IN THE UNITED STATES (2011) [hereinafter FCIC REPORT], *available at* http://fcic-static.law.stanford.edu/cdn_media/fcic-reports/fcic_final_report_full.pdf, *archived at* http://perma.cc/8FCS-8L5R; *Best Sellers: Paperback Nonfiction*, N.Y. TIMES, Feb. 20, 2011, www.nytimes.com/best-sellers-books/2011-02-20/paperback-nonfiction/list.html, *archived at* http://perma.cc/65TU-UFL8. It has proved particularly popular for legal scholars, having generated citations roughly equal to the contemporaneously published most cited law review article. Andrew W. Hartlage, *Book Notice: "Never Again," Again: A Functional Examination of the Financial Crisis Inquiry Commission*, 111 MICH. L. REV. 1183, 1193 (2013).

4. My aim here is simply to provide a general high-level overview, so in some places I will include some simplifications or oversimplifications.

5. Gary Gorton, *Banking Must Not be Left in the Shadows*, FIN. TIMES (Nov. 20, 2012), http://www.ft.com/intl/cms/s/0/48b78190-3278-11e2-916a-00144feabdc0.html#axzz2aSPOqWlQ (claiming that "[t]he financial crisis again showed that in market economies bank runs recur, over and over").

6. Mike Whitney, *A Beginners Guide to Shadow Banking*, CENTRE FOR RESEARCH ON GLOBALIZATION (June 12, 2011), http://www.globalresearch.ca/a-beginners-guide-to-shadow-banking/25246, *archived at* http://perma.cc/G96U-8MNS.

7. *See* GORTON. *supra* note 1, at 13-60. The Financial Stability Board's task force defined "shadow banking" as "credit intermediation involving entities and activities outside the regular banking system." Kelly Evans, *Bank-Run Risk in the Shadows*, WALL ST. J., Dec. 5, 2011, http://online.wsj.com/article/SB10001424052970204397704577074782946096256.html. Credit is intermediated "through a wide range of securitization and secured funding techniques." Zoltan

Meanwhile the general public did not understand or even notice these institutions and transactions. Notwithstanding the lack of attention, shadow banking had quietly become enormous.[8]

Most agree a credit crunch precipitated the crisis. A credit crunch occurs when enough parties simply refuse to lend to each other.[9] Overinvestment in housing led to a real estate bubble,[10] and this bubble's bursting created a domino effect, beginning with greatly increased defaults on subprime mortgages. The defaults were greatly amplified by collateralized debt obligations, credit default swaps, and other complex derivatives. Losses on these securities resulted initially in the fire sale of a big investment bank, Bear Stearns, and a few months later, a full blown banking crisis leading to the biggest bankruptcy in U.S. history, Lehman Brothers, and the collapse of several other financial giants.[11] The effect of the collapse spread around the world, leading to what is referred to as the Great Recession, which, in the view of many, continues to this day.[12]

There is far less agreement on the *causes* of this chain reaction. Nobel laureate economist Joseph Stiglitz attributed the crisis to "system failure," which is when not just a single decision, but a cascade of decisions, produces a tragic result.[13] Judge Richard Posner seems to blame the crisis on capitalism itself.[14]

Pozsar et al., *Shadow Banking*, Federal Reserve Bank of New York Staff Rep. No. 458 (July 2010, Rev. Feb. 2012), http://www.ny.frb.org/research/staff_reports/sr458.pdf, *archived at* http://perma.cc/RE2K-TFEL (defining shadow banks as "financial intermediaries that conduct maturity, credit, and liquidity transformation without explicit access to central bank liquidity or public sector credit guarantees"). They add, "what distinguishes shadow banks from traditional banks is their lack of access to public sources of liquidity such as the Federal Reserve's discount window, or public sources of insurance such as Federal Deposit Insurance." *Id.* at 2.

8. Pozsar et al., *supra* note 7, at 9 (noting, for example, that shadow banking liabilities exceeded traditional bank liabilities in June 2007, by $8 trillion, $22 trillion to $14 trillion, or 57%).

9. Paul Mizen, *The Credit Crunch of 2007 – 2008: A Discussion of the Background, Market Reactions, and Policy Responses*, FED. RES. BANK OF ST. LOUIS REV. 531, 531 (2008), *available at* http://research.stlouisfed.org/publications/review/08/09/Mizen.pdf, *archived at* http://perma.cc/87WE-XQ68.

10. *See* Eamonn K. Moran, *Wall Street Meets Main Street: Understanding the Financial Crisis*, 13 N.C. BANKING INST. 5, 7 (2009) (describing the continual rise in housing prices and the subsequent increase in purchases or mortgage-related assets).

11. *See* FCIC REPORT, *supra* note 3, at 354-62 (2011) (explaining the bankruptcy of Lehman Brothers following the burst of the real estate bubble).

12. According to Wikipedia, the Great Recession is also referred to as the "Lesser Depression" or the "Long Recession." *Great Recession*, WIKIPEDIA, http://en.wikipedia.org/wiki/Great_Recession *archived at* http://perma.cc/F9PQ-33LE (last visited Feb. 17, 2014). Officially, the recession ran from December 2007 to June 2009. *See US Business Cycles Expansions and Contractions*, NAT'L BUREAU OF ECON. RES. (Apr. 23, 2012), http://www.nber.org/cycles.html, *archived at* http://perma.cc/XG59-8J2R. Those still suffering from persistent unemployment, government austerity measures or the European sovereign debt problem might disagree.

13. Joseph E. Stiglitz, *Capitalist Fools*, VANITY FAIR (Jan. 2009), http://www.vanityfair.com/magazine/2009/01/stiglitz200901-2 (listing five key errors that led to the crisis, including

Others argue that it was private sector greed, pure and simple.[15] Washington Post columnist Robert Samuelson favors a "narrative rooted in mass and bipartisan delusion," what he refers to as a "long boom-bust" explanation.[16] He claims that "[w]hat ultimately explains the financial crisis and Great Recession is an old-fashioned boom and bust, of which the housing collapse was merely a part," where the boom lasted from 1983-2007.[17] Joe Nocera seems to agree, claiming that an analysis requires the skills of a psychologist, as it resulted from a "mass delusion" about housing prices, and is a "part of the human condition."[18] Put differently, people and their—our—fundamental human nature was the key cause.[19] Purported causes still make headlines, including a recent article asserting that cocaine use caused the crisis.[20]

This essay will briefly describe the crisis (what happened?) and then analyze various proposed causes (why it happened?). First, however, a disclaimer: while there is general agreement over what the crisis was, the causes remain contested and arguably unclear.[21] Moreover, although we now have the first drafts of

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appointing Alan Greenspan, an "anti-regulator" to serve as an "enforcer," and repealing the Glass Steagall Act).

14. RICHARD A. POSNER, A FAILURE OF CAPITALISM: THE CRISIS OF '08 AND THE DESCENT INTO DEPRESSION (2009).

15. Steve Denning, *Lest We Forget: Why We Had a Financial Crisis*, FORBES (Nov. 11, 2011), http://www.forbes.com/sites/stevedenning/2011/11/22/5086/, *archived at* http://perma.cc/K3RP-NZM6 ("It is clear to anyone who has studied the financial crisis of 2008 that the private sector's drive for short-term profit was behind it.").

16. Robert Samuelson, *Causes of the Crisis*, WASH. POST WRITER'S GROUP (Mar. 19, 2012), http://www.realclearpolitics.com/articles/2012/03/19/causes_of_the_crisis_113521.html, *archived at* http://perma.cc/MS4P-3DVV.

17. *Id*. More conventional explanations, he claims, result from other motivations. *Id.*

18. Joe Nocera, *Inquiry is Missing Bottom Line*, N.Y. TIMES, Jan. 28, 2011, http://www.nytimes.com/2011/01/29/business/29nocera.html?pagewanted=all, *archived at* http://perma.cc/QTG4-535S (concluding that the question is really when, not whether, a financial crisis will occur again).

19. Kevin Kabat, *Perspectives on the Financial Crisis*, 47 IND. L. REV. 23, 23 (2014) (from Kabat's Keynote Address at the Indiana Law Review Symposium: Law and the Financial Crisis (Apr. 5, 2013) (stating that "everyone" had caused the financial crisis)).

20. *See, e.g.*, Rob Williams, *Financial Meltdown Was Caused by Too Many Bankers Taking Cocaine, Says Former Government Drugs Tsar Prof David Nutt*, INDEPENDENT (Apr. 15, 2013), http://www.independent.co.uk/news/uk/home-news/financial-meltdown-was-caused-by-too-many-bankers-taking-cocaine-says-former-government-drugs-tsar-prof-david-nutt-8572948.html, *archived at* http://perma.cc/W54F-HTSK. The argument is perhaps not quite as silly as it sounds, in that cocaine may lead to overconfidence and, therefore, excessive risk-taking.

21. Robert Samuelson, the award winning economics journalist, observed, "[f]our years after the onset of the financial crisis . . . we still lack a clear understanding of the underlying causes." Robert Samuelson, *Long-term Understanding of the U.S. Economic Crisis*, WASH. POST, Mar. 18, 2012, http://articles.washingtonpost.com/2012-03-18/opinions/35449524_1_financial-crisis-real-estate-prices-booms, *archived at* http://perma.cc/W34B-8G52. Federal Reserve Chairman Ben

history, the second drafts are only just appearing, and there will undoubtedly be third and fourth drafts as well.[22]

I. THE CRISIS: EVENTS

What do we really know about the financial crisis? Although it has been described as a "long and complicated story,"[23] at a high enough level of generality nearly everyone agrees. Risk, largely unobserved and linked to sub-prime mortgages and derivative securities that were based on them, built up in the financial system.[24] As the risks (and resultant losses) became apparent with the bursting of the housing bubble, concerns grew over borrowers' solvency. Lenders withdrew from the short-term debt market, resulting in a liquidity crisis, not just for the financial economy, but for what is sometimes referred to as the "real economy" as well.[25] Some financial institutions, notably Lehman Brothers, failed, whereas others were effectively taken over by governmental[26] or other institutions in shotgun marriages brokered by the government.[27] The U.S. government and others took unprecedented and decisive actions, and disaster—the risk of not having an economy within a few days[28]—was narrowly

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Bernanke has a somewhat different view: "[b]ecause the crisis was so complex, its lessons are many, and they are not always straightforward." Ben S. Bernanke, *Monetary Policy and the Housing Bubble*, Speech at the Annual Meeting of the Am. Econ. Ass'n (Jan. 3, 2010), http://www.federalreserve.gov/newsevents/speech/bernanke20100103a.htm, *archived at* http://perma.cc/5FNA-S3G3.

22. *See* BLINDER, *supra* note 1, at 5 (claiming that his book, published in January 2013, should be considered a "second draft of history").

23. *Id.*

24. Michael Lewis describes some of those who observed and greatly profited from recognizing the buildup of risk. *See generally* LEWIS, *supra* note 2 (focusing on hedge fund managers, traders and analysts who invested against subprime mortgages well before the crisis).

25. The "real economy" can be defined as "the part of the economy that is concerned with actually producing goods and services, as opposed to the part of the economy that is concerned with buying and selling on the financial markets." FIN. TIMES LEXICON, http://lexicon.ft.com/Term?term=real-economy *archived at* http://perma.cc/Z8T7-FBCJ (last visited Oct. 1, 2013).

26. *See* Federal Reserve Bank of St. Louis, *The Financial Crisis: A Timeline of Events and Policy Actions,* available at http://timeline.stlouisfed.org/index.cfm?p=timeline# (Fannie Mae, Freddie Mac, AIG).

27. *Id.* (noting that Bank of America bought Merrill Lynch, Citigroup and then Wells Fargo bought Wachovia and JP Morgan Chase bought part of Washington Mutual.).

28. On Thursday, September 18, Federal Reserve Chairman Ben Bernanke told Congress that if the largest banks were not saved "we may not have an economy on Monday." Andrew Ross Sorkin et al., *As Credit Crisis Spiraled, Alarm Led to Action*, N.Y. TIMES, Oct. 1, 2008, http://www.nytimes.com/2008/10/02/business/02crisis.html?pagewanted=all&_r=0, *archived at* http://perma.cc/VY8J-LS9N. As Ben Bernanke said later "[w]e came very, very close to a global financial meltdown." BLINDER, *supra* note 1, at 3.

averted.[29] Even so, millions of people lost their homes,[30] jobs,[31] and much of their savings,[32] among other harms.[33]

These external contours of the crisis are well known, even if the reasons behind them are less well understood. Housing prices peaked in 2006 leading to early harbingers of the crisis. In April 2007, New Century Financial Corporation, a company that had specialized in loans to people with poor credit who were now defaulting in overwhelming numbers, declared bankruptcy.[34] Another warning came in July 2007 with the collapse of two Bear Stearns hedge funds capitalized at $1.6 billion dollars, due to their investment in collateralized debt obligations backed by subprime mortgage loans.[35] In March 2008, there was the government-brokered and supported—$30 billion in guarantees—forced-sale of Bear Stearns to JP Morgan Chase, at a final price of $10 per share, less than 10% of the stock's 52 week high.[36] On September 7, Fannie Mae and Freddie Mac, the government sponsored entities (GSEs) that owned or guaranteed roughly $6 trillion in U.S. mortgages,[37] were put in conservatorship.[38] Eight days later, after a round the

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29. Sorkin et al., *supra* note 28.

30. Jeff Cox, *US Housing Crisis is Now Worse than Great Depression*, CNBC (Jun. 14, 2011), http://www.cnbc.com/id/43395857 *archived at* http://perma.cc/N7NM-QJRP ("[T]he foreclosure problem is unlikely to get any better with 4.5 million households either three payments late or in foreclosure proceedings").

31. *See, e.g.*, BLINDER, *supra* note 1, at 12 (providing a graph showing declining employment after the crisis).

32. John H. Makin, *The Global Financial Crisis and American Wealth Accumulation: The Fed Needs a Bubble Watch*, AM. ENTER. INST. (Aug. 29, 2013), http://www.aei.org/outlook/economics/monetary-policy/the-global-financial-crisis-and-american-wealth-accumulation-the-fed-needs-a-bubble-watch/, *archived at* http://perma.cc/322W-9GRZ (providing one graph showing the decrease in the personal savings rate during the recession and another displaying the personal savings rate during the recession between December 2007 and June 2009 compared to the average personal savings rate of all Post-WWII recessions).

33. This account is similar to that presented by the FCIC report. FCIC REPORT, *supra* note 3, at 233-388. The FCIC report adds that the collapse was a global phenomenon, as investors around the word had exposure to U.S. mortgages through securities and derivative securities.

34. Julie Creswell, *Mortgage Lender New Century Financial Files for Bankruptcy*, N.Y. TIMES, Apr. 2, 2007, http://www.nytimes.com/2007/04/02/business/worldbusiness/02iht-loans.5.5118838.html?_r=0, *archived at* http://perma.cc/CPE6-DPAK.

35. Gretchen Morgenson, *Bear Stearns Says Battered Hedge Funds Are Worth Little*, N.Y. TIMES, July 18, 2007, http://www.nytimes.com/2007/07/18/business/18bond.html, *archived at* http://perma.cc/6CL6-DQY4.

36. Andrew Ross Sorkin, *JP Morgan Raises Bid for Bear Stearns to $10 a Share*, N.Y. TIMES, Mar. 24, 2008, http://www.nytimes.com/2008/03/24/business/24deal-web.html, *archived at* http://perma.cc/4W88-BXS8.

37. Charles Duhigg, *Loan-Agency Woes Swell From a Trickle to a Torrent*, N.Y. TIMES, July 11, 2008, http://www.nytimes.com/2008/07/11/business/11ripple.html?pagewanted=all, *archived at* http://perma.cc/WVY5-6XXG.

38. Mark Jickling, Fannie Mae and Freddie Mac in Conservatorship 1 (2008), *available at*

clock rescue effort failed, Lehman Brothers Holding Inc., the fourth largest U.S. investment bank, filed for the largest ever bankruptcy.[39] The next day, AIG (the world's largest insurance company), on the hook for $441 billion in credit default swaps, was rescued by the U.S. Federal Reserve Bank.[40]

The bailout and other efforts, however, failed to end the crisis.[41] Investors panicked all over the world, trying to flee risky assets and not knowing what financial institutions were really at risk.[42] Nearly every asset class declined in value, except for U.S. government treasury obligations.[43] Over the next few weeks, more giant financial institutions were targeted (Morgan Stanley), others failed (Washington Mutual) or were purchased (Wachovia), and stock prices gyrated wildly.[44] The crisis also spread rapidly around the world, with the bailing-out or seizure of at least five European banks.[45] These events led President Bush to ask of Treasury Secretary Paulson: "How did we get here?"[46]

Clearly, the impact of the well-known decline in housing prices had been grossly underestimated. Early on, in July 2007, Federal Reserve Chairman Bernanke informed the U.S. Senate's Banking Committee that losses of up to $100 billion due to subprime mortgage[47] products were possible.[48] The U.S. stock indices, the Dow Jones Industrial Average, and the Standard & Poor's 500 each

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http://fpc.state.gov/documents/organization/110097.pdf, *archived at* http://perma.cc/AHM3-BJHT.

39. Sam Mamudi, *Lehman Folds with Record $613 Billion Debt*, MARKETWATCH (Sept. 15, 2008), http://www.marketwatch.com/story/lehman-folds-with-record-613-billion-debt?siteid=rss *archived at* http://perma.cc/82DP-QS4G. On the same day, Bank of America agreed to buy Merrill Lynch, but for reasons that are not entirely clear, Bank of America did not appear determined to bargain for a low price. *See* LEWIS, *supra* note 2, at 237.

40. LEWIS, *supra* note 2, at 237.

41. *Id.*

42. *Id.* at 238.

43. *Id.*

44. *Id.* at 240.

45. Mark Landler, *The U.S. Financial Crisis is Spreading to Europe*, N.Y. TIMES, Sept. 30, 1998, http://www.nytimes.com/2008/10/01/business/worldbusiness/01global.html?_r=0 (quoting a European economist stating that "a bank run spreads around the world, not around the block").

46. Jo Becker et al., *Bush Drive for Home Ownership Fueled Housing Bubble*, N.Y. TIMES, Dec. 21, 2008, http://www.nytimes.com/2008/12/21/business/worldbusiness/21iht-admin.3.18846524.html?pagewanted=all, *archived at* http://perma.cc/WN8S-FJBK.

47. "Subprime" is the term used for borrowers who were not eligible for (or sometimes were steered away from) mortgages at the "prime" rate. Such borrowers had lower credit ratings and thus were deemed to be less likely to repay their loans than the safest borrowers. To compensate lenders for the increased credit risk they charged a higher interest rate. Interestingly, (within the last twenty years), the term subprime had been used instead to refer to an interest rate that was below the prime rate, and thus only available to the highest-quality borrowers.

48. Staff and Wire Reports, *Bernanke: Subprime Could Top $100B*, CNN MONEY (July 19, 2007), http://money.cnn.com/2007/07/19/news/economy/bernanke/index.htm?postversion=2007071914 *archived at* http://perma.cc/WR7S-P6NZ.

hit all-time peaks in the fall of 2007 (a peak which was only passed in 2013).[49] And in what certainly with hindsight justifies being called "simply the worst deal in the history of the financial services industry,"[50] in January 2008, Bank of America agreed to buy Countrywide Financial, one of the most aggressive providers of subprime mortgages, for $4.1 billion.[51] At the time, however, some still believed it was a good deal.[52]

Beyond this barebones factual outline, there is much disagreement, not just among pundits, but among economists and policy analysts too.[53] To explain the financial collapse, consider how financial institutions are structured. Each has capital to keep it stable and earn profits from products such as loans, including mortgages.[54] The more capital a financial institution has relative to its loans, generally the more stable the financial institution. Making more and riskier loans with insufficient capital can result in the failure of the financial institution.

In the years leading up to September 2008, many of the financial institutions had not only issued and securitized mortgages, but also bought securities backed by the mortgages.[55] These were mortgage-backed securities (MBSs). They also bought collateralized debt obligations (CDOs), securities backed by the MBSs, which were one step further removed from the mortgages.[56] And one step even further along were synthetic CDOs, the value of which were based essentially on credit default swaps, which were a kind of insurance against other securities defaulting.[57]

Why did so many financial institutions buy so many of these securities?

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49. Charley Blaine, *Dow Nearly Tops 2007 Peak Before Stocks Sag,* MSN MONEY (Feb. 28, 2013), http://money.msn.com/top-stocks/post.aspx?post=efd08c31-1671-4d65-a5fc-8dc65ed5cb42 *archived at* http://perma.cc/Y245-CU24.

50. Jim Zarroli, *Looking Back on Bank of America's Countrywide Debacle*, NPR (Jan. 11, 2013), http://www.npr.org/2013/01/11/169108131/looking-back-on-bank-of-americas-countrywide-debacle *archived at* http://perma.cc/3C8P-UCKG.

51. *Id.*

52. *Id.* Bank of America has reportedly spent $40 billion to resolve litigation. *Id.* It has reportedly threatened to put Countrywide Financial into bankruptcy if various settlements in the works are not finalized. Matt Egan, *Could BofA Still Toss Countrywide into Bankruptcy?*, FOX BUS. (June 11, 2013), http://www.foxbusiness.com/industries/2013/06/11/could-bofa-still-toss-countrywide-into-bankruptcy/ *archived at* http://perma.cc/6W24-E2JX.

53. Mark Thoma, *What Caused the Financial Crisis? Don't Ask an Economist*, FISCAL TIMES (Aug. 30, 2011), http://www.thefiscaltimes.com/Columns/2011/08/30/What-Caused-the-Financial-Crisis-Dont-Ask-an-Economist, *archived at* http://perma.cc/V8FM-CSND.

54. Bank capital can perhaps best be analogized to the down payment on a house. *See* Matthew Yglesias, *What is Bank Capital? It's Not Reserves, It's Not a Cushion, and You Don't Hold It*, SLATE (July 10, 2013), http://www.slate.com/blogs/moneybox/2013/07/10/bank_capital_requirements_not_reserves_not_held.html *archived at* http://perma.cc/T9T3-2TW5. It can thus magnify both returns and losses.

55. *See* FCIC REPORT, *supra* note 3, at 256 (2011).

56. *Id.*

57. *Id.* at 236.

(Remember, for every security sold there also had to be a buyer.) For one reason, buyers often thought they were good deals, in the sense of a given return for the perceived risk.[58] Also, because of the triple A ratings many of these securities received from the ratings agencies, for some institutions they could be treated more favorably as capital,[59] and for others only such high rated securities were permissible investments.[60] Moreover, these securities were often seen as facilitating diversification, which would be good for the financial institution.[61]

Although it seems obvious now, all of these securities depended on the value of the underlying securities, which ultimately went back to the mortgages themselves—mainly subprime mortgages. When the underlying securities declined (home buyers defaulting on their mortgages, resulting in some MBSs, CDOs and synthetics losing value) the financial institutions must write down the value of the assets, thereby reducing their capital.[62]

Consider Lehman Brothers. Investment banks like Lehman Brothers typically rely on short-term funding.[63] Lehman was in fact "rolling over" $100 billion in short term financing every month, meaning that if it could not find lenders each month willing to lend them that much, it would be at risk of insolvency.[64] But with concerns regarding its stability (and in particular whether its capital remains sufficiently valuable) nobody will risk lending it money. Lehman is going to fail. The weekend before the September 15th, 2008 bankruptcy filing, the company was desperately looking for help.[65] Barclays and Bank of America, despite pressure from the federal government, would not buy Lehman (which would have required the buyers to guarantee their debts), so Lehman collapses.[66] This is terrible news, particularly for Lehman's creditors and

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58. *Id.* at 242. As Mclean and Nocera put it, buyers were "buying a [triple-A] rating and thought [they] couldn't lose money." MCLEAN & NOCERA, *supra* note 2 at 266.

59. *See, e.g.*, 17 C.F.R. § 240.15c3-1 (2008) (broker-dealers).

60. *Id.* at 8.

61. *Id*. at 55.

62. In *House of Cards: A Tale of Hubris and Wretched Excess on Wall Street*, William D. Cohan describes how a sharp decline in the reference value of mortgage securities led to the demise of the Bear Stearns' mortgage funds. Specifically, Goldman Sachs provided a value that dropped 43% in one month, resulting in a drop in the funds' asset values of 13%, and a restated earning release. *See* COHAN, *supra* note 2, at 399-402.

63. *FCIC Issues Preliminary Staff Report On Shadow Banking and the Financial Crisis*, Fed. Banking L. Rep. (CCH) P. 96-845, 2010 WL 7364426 (2010).

64. *See Diamond and Kashyap on the Recent Financial Upheavals*, FREAKONOMICS (Sept. 18, 2008), http://www.freakonomics.com/2008/09/18/diamond-and-kashyap-on-the-recent-financial-upheavals/, *archived at* http://perma.cc/NE8F-GNR7. Bear Stearns was borrowing up to $70 billion every day in late 2007. FCIC REPORT, *supra* note 3, at xx.

65. *See* Yalman Onaran & Christopher Scinta, *Lehman Files Biggest Bankruptcy Case as Suitors Balk*, BLOOMBERG (Sept. 15, 2008), http://www.bloomberg.com/apps/news?pid=news archive&sid=awh5hRyXkvs4, *archived at* http://perma.cc/Z6P7-9S5C (discussing Lehman Brothers' bankruptcy filing in September 2008).

66. *Id.*

employees, but this is one of the side effects of free-market capitalism.

However, these financial institutions are far from independent. It is as if they are all roped together. When a large institution like Lehman sinks, others become increasingly unstable and may actually be brought under as well. Globally, financial institutions were firmly and comprehensively intertwined—webbed together through their contractual obligations.[67] When Lehman goes down, some of its debt holders are not going to get paid, causing losses for them. Other debt-holders, however, have insured their debt—through credit default swaps—which means the counterparties, the sellers, companies like AIG, are on the hook.[68]

One very important way theses institutions are roped together is through CDSs.[69] Credit default swaps are guarantees or insurance policies, like home insurance.[70] You buy home insurance to protect your asset—if your house burns, the insurance company makes you whole. You have thus swapped the financial risk of your house being destroyed with the insurance company (in exchange for your premium payments). Likewise, with credit default swaps, one company swaps with another the risk of the borrower defaulting in exchange for a premium.[71] As part of this transaction, the company might be concerned that the issuer of the CDS might in turn default, so frequently the company would request collateral—collateral that might need to be supplemented.[72] An interesting feature of this is that a CDS can be very beneficial, much as buying home insurance reduces risk for homeowners.[73] But CDSs go one step further. They can act as though you bought home insurance on somebody else's house.[74] Instead of reducing risk, it is more like a bet. Financial institutions would buy CDSs on debt they did not hold.[75] In essence, they were predicting (hoping?) that the chance of default outweighed the premiums. At a minimum, the institutions

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67. *Id*.

68. AIG was of course on the hook for far more than just some of Lehman's obligations. They had also insured some of those securities, $57 billion worth, which were dependent on sub-prime mortgages.

69. Another way institutions were intertwined was through "cross buying." According to the SEC, "heading into 2007, there was a Streetwide gentleman's agreement: You buy my BBB tranches [low rated securities] and I'll buy yours." FCIC REPORT, *supra* note 3, at 203.

70. *See* Barry Ritholtz, *Credit Default Swaps Are Insurance Products. It's Time We Regulated Them as Such*, WASH. POST, http://www.washingtonpost.com/business/credit-default-swaps-are-insurance-products-its-time-we-regulated-them-as-such/2012/03/05/gIQAAUo83R_story.html, *archived at* http://perma.cc/EEA5-UYBQ (last visited June 28, 2014) (comparing CDOs to insurance products).

71. *See* Mary Elizabeth Desrosiers, *Prices of Credit Default Swaps and the Term Structure of Credit Risk*, Worcester Polytechnic Institute 1, 14-15 (May 2007), *available at* http://www.wpi.edu/Pubs/ETD/Available/etd-050107-220449/unrestricted/CDS-Default_Probability.pdf (discussing credit default swaps).

72. FCIC REPORT, *supra* note 3, at 50.

73. *Id.*

74. *Id.*

75. *Id.*

would also have an incentive not to help the borrower survive. By 2008, the value of CDSs greatly outweighed the underlying securities in valuation.[76] Therefore, when Lehman defaulted on its bonds, not only were bond-holders at risk, but also any institution that had issued CDSs on Lehman's bonds.

This interconnected web of roped-together institutions was at great risk of collapse.[77] Those institutions with more conservative financial structures, i.e., higher relative amounts of capital, or those who did not keep high values of MBSs and CDOs were somewhat safer, but the combined impact put nearly everyone at risk. All of the other institutions were desperately trying to untie the ropes that they had, not just with Lehman, but with the other less stable institutions as well.[78] The problem was, in part, asymmetric information, or what Nobel Prize winner George Akerloff called the "lemon problem."[79] None of the institutions could tell which were the good, solid institutions, and which were not, in part because of the difficulty in valuing an illiquid security that represents a little piece of perhaps 1000 to 10,000 mortgages. Thus, the institutions kept all high-quality liquid instruments, like cash and treasury bills, and nobody was willing to buy, or lend money based on, the mortgage-linked securities that had been exposed as risky.[80]

So, the financial institutions were trying to undo or reduce their ties to the other financial institutions. But everyone was doing the same thing at the same time and some were getting ever closer to failure. With the announcement of Merrill Lynch's sale to Bank of America,[81] and Lehman's bankruptcy filing, AIG was expected to be next.[82] These circumstances forced the government to rescue AIG the following day.[83] Over the next few weeks, Washington Mutual was

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76. *Id.*

77. *Id*. at 17.

78. *See id.* at 27 (discussing the interconnectivity of financial firms and its contribution to the financial crisis).

79. *See* George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q.J. ECON. 488, 490 (1970) (discussing used car purchasers' reasonable fear that the car they are buying is a lemon because sellers know more about the car and are more likely to sell it if it is a lemon); *see also* Antony Page, *Taking Stock of the First Amendment's Application to Securities Regulation*, 58 S.C. LAW REV. 789, 814-16 (2007) (analogizing the used car "lemon problem" with securities).

80. *See id.* (discussing why asymmetrical information would discourage firms from purchasing risky securities).

81. Some have wondered why Bank of America paid $29 per share for Merrill Lynch when it appears highly probable the bank could have paid substantially less. *See, e.g.*, *Lewis Gets Faint Praise From Buffet,* N.Y. TIMES, Sept. 16, 2009 (quoting noted investor Warren Buffet asking "Why pay X for Merrill on Sunday when you could have had it for pennies on Monday?).

82. Carrick Mollenkamp et al., *Lehman Files for Bankruptcy, Merrill Sold, AIG Seeks Cash*, WALL ST. J., Sept. 16, 2008, http://online.wsj.com/article/SB122145492097035549.html, *archived at* http://perma.cc/Y7UQ-VVJ2.

83. Jody Shenn & Zachary Tracer, *Federal Reserve Says AIG, Bear Stearns Rescue Loans Paid*, BLOOMBERG (Jun 14, 2012), http://www.bloomberg.com/news/2012-06-14/new-york-fed-

about to fail and Federal regulators seized and sold it within hours.[84] Wachovia was in a similar state, and ended up being bought by Wells Fargo.[85]

Congress passed the rescue plan, the Emergency Economic Stabilization Act of 2008 (EESA), on October 3.[86] The EESA was originally designed to solve the problem of financial institutions owning too much risky or hard to value capital.[87] The government would buy the securities, the MBSs, CDOs, and their offshoots that nobody else wanted.[88] As financial institutions sold these toxic assets, their cash positions (capital) would increase, thereby making them more stable.[89] However, it quickly became clear that this response was inadequate.[90] Some institutions still lacked equity.[91] To address this issue, the United States Department of the Treasury ("Treasury") diverted some of the bailout funds, directly shoring capital.[92] The Treasury compelled the nine largest banks to sell equity, even the ones that did not want to,[93] using a total of $250 billion to this end.[94]

Citigroup went back to the well in late November, receiving a $20 billion capital infusion from the Treasury and guarantees of $306 billion in assets, which was described as an "undisguised gift."[95] In mid-January, 2009, Bank of America also received $20 billion and guarantees of $118 billion.[96]

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says-aig-bear-stearns-rescue-loans-fully-repaid.html, *archived at* http://perma.cc/MMA5-MZYY.

84. *See* Robin Sidel et al., *WaMu Is Seized, Sold Off to J.P. Morgan, in Largest Failure in U.S. Banking History*, WALL ST. J., Sept. 26, 2008, http://online.wsj.com/article/SB122238415586576687.html, *archived at* http://perma.cc/RG3D-JLXF.

85. *See* FCIC REPORT, *supra* note 3, at 368-69.

86. Pub. L. No. 110-343, 122 Stat. 3765 (2008).

87. *Id*.

88. *Breakdown of the Final Bailout Bill*, WASH. POST, Sept. 28, 2008, http://articles.washingtonpost.com/2008-09-28/news/36908549_1_treasury-secretary-troubled-assets-tarp, *archived at* http://perma.cc/QK3B-N3EP.

89. *Id*.

90. Dakin Campbell, *Treasuries Climb on Speculation Bank Bailout Plan to Fall Short*, BLOOMBERG (Feb. 10, 2009), http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aDkolK_d_T9w, *archived at* http://perma.cc/7L2L-DCD8.

91. Jane Sasseen & Theo Francis, *Paulson's $250 Billion Bank Buy*, BLOOMBERG BUS. WK. (Oct. 14, 2008), http://www.businessweek.com/stories/2008-10-14/paulsons-250-billion-bank-buybusinessweek-business-news-stock-market-and-financial-advice, *archived at* http://perma.cc/7L2L-DCD8.

92. *Id.*

93. *Id.* Why force all of the big financial institutions to take the investment? This prevented line-drawing between the "good" and "bad" banks. *Id.*

94. *Id.*

95. Michael Lewis & David Einhorn, *How to Repair a Broken Financial World*, N.Y. TIMES Jan. 3, 2009, http://www.nytimes.com/2009/01/04/opinion/04lewiseinhornb.html.

96. Phillip Inman & Julia Kollewe, *Financial Crisis: Bank of America Given $138bn Rescue Package,* GUARDIAN (Jan. 16, 2009), http://www.guardian.co.uk/business/2009/jan/16/ bank-of-america-20bn-rescue, *archived at* http://perma.cc/69LD-5SN7.

Overall, the Federal Reserve lent more than $1.2 trillion in 2008 in emergency loans to support financial institutions.[97] It ended up committing $7.77 trillion dollars by March 2009 to keep the financial system, and world economy, functioning.[98]

II. THE CRISIS: CAUSES

There are two main schools of thought regarding the causes of the financial crisis. One, from the right, asserts that government policies encouraging homeownership—particularly to lower income and minority buyers--led to the relaxation of underwriting standards, the housing bubble, and then ultimately its collapse.[99] The other, from the left, attributes the crisis to the private sector that took too many risks while the government failed to regulate, or even understand, derivative financial products and big financial institutions.[100] The first narrative claims the government did too much, whereas the second claims the government did not do enough.[101] The related claim is regarding "free" markets: they either would have worked to prevent the crisis but were not permitted to do so, or they themselves created the crisis and should not have been permitted to do so. Perhaps it is underappreciated that these two narratives are not necessarily inconsistent. Both could be at fault—government regulation could have encouraged the crisis and under-regulation could have failed to prevent it.

The causes of the crisis are something of a Rorschach test; experts can see in the causes what they want to see.[102] Better yet, perhaps the causes are like a thaumatrope; the image depends on which side of a card one looks, but when the toy is in motion, the images on both sides are combined.[103] The real question over the legal causes of the financial crisis, as Mark Calabria of the Cato Institute asserted, "is the quality and substance of [the] regulation" at issue.[104]

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97. *See* Bob Irvy et al., *Secret Fed Loans Gave Banks $13 Billion Undisclosed to Congress*, BLOOMBERG (Nov. 27, 2011), http://www.bloomberg.com/news/2011-11-28/secret-fed-loans-undisclosed-to-congress-gave-banks-13-billion-in-income.html, *archived at* http://perma.cc/CP9U-FV6J.

98. *Id.*

99. *See* FCIC REPORT, *supra* note 3, at 444.

100. Nick Ottens, *Democrats Blame Deregulation for Crisis*, ATL. SENTINEL (Jan. 28, 2011), http://atlanticsentinel.com/2011/01/democrats-blame-deregulation-for-crisis/, *archived at* http://perma.cc/LPH9-R95D.

101. *Id.*

102. Judge Richard Posner emphasizes this notion when he refers to ideology having led to blindness in the economics profession. *See* POSNER, *supra* note 14, at 328.

103. Chopsticks78, *Thaumatrope: Bird & Cage*, YOUTUBE (Jan. 23, 2009), http://www.youtube.com/watch?v=yD0ovANHdqQ (showing a video of the classic thaumatrope in which a bird on one side of a disc and a cage on the other is twirled so that the bird appears inside the cage).

104. Mark A. Calabria, *Did Deregulation Cause the Financial Crisis?*, Cato Policy Report 5 (July/August 2009), *available at* http://object.cato.org/sites/cato.org/files/serials/files/policy-report/2009/7/cpr31n4-1.pdf, *archived at* http://perma.cc/YLG-8V3K.

To fair-minded observers it is clear that there were several necessary—but insufficient—laws or policies that caused the crisis.[105] What were these failures of regulation and policy? An early but unselective account in the Declaration of the Summit on Financial Markets and the World Economy by the leaders of the Group of 20 stated:

> During a period of strong global growth, growing capital flows, and prolonged stability earlier this decade, market participants sought higher yields without an adequate appreciation of the risks and failed to exercise proper due diligence. At the same time, weak underwriting standards, unsound risk management practices, increasingly complex and opaque financial products, and consequent excessive leverage combined to create vulnerabilities in the system. Policy-makers, regulators and supervisors, in some advanced countries, did not adequately appreciate and address the risks building up in financial markets, keep pace with financial innovation, or take into account the systemic ramifications of domestic regulatory actions.[106]

The Financial Crisis Inquiry Commission (FCIC) implemented the most prominent and certainly the most extensive analysis of the crisis. Congress created the FCIC "to examine the causes, domestic and global, of the current financial and economic crisis in the United States."[107] The FCIC, spending nearly $10 million, took eighteen months, interviewed over 700 witnesses, reviewed millions of pages of documents, and held nineteen days of public hearings.[108] Its report made the New York Times' and Washington Post's *Best-Sellers* list,[109] with the New York Review of Books announcing it as "the definitive history of this period"[110] and "the most comprehensive indictment of the American financial failure that has yet been made."[111] The report was, "[b]y all accounts[,] . . . an

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105. TAYLOR, *supra* note 1, at xi ("What caused the financial crisis? . . . Rarely in economics is a single answer to such questions, but . . . specific government actions and interventions should be first on the list of answers"). The FCIC dissenters captured this notion, noting several factors "were essential contributors to the crisis" but each was "insufficient as a standalone explanation." *Id.*

106. *Declaration Summit on Financial Markets and the World Economy*, at 1 (Nov. 15, 2008), U.S. DEP'T OF THE TREASURY, *available at* http://www.treasury.gov/resource-center/international/g7-g20/Documents/Washington%20Nov%20Leaders%20Declaration.pdf, *archived at* http://perma.cc/VHY8-MRHM.

107. FCIC REPORT, *supra* note 3, at 416.

108. *Id.* at xi.

109. *Best Sellers: Paperback Nonfiction*, N.Y. TIMES, Feb. 20, 2011, http://www.nytimes.com/best-sellers-books/2011-02-20/paperback-nonfiction/list.html, *archived at* http://perma.cc/D5UJ-8PSX.

110. Jeff Madrick, *The Wall Street Leviathan*, N.Y. REV. BOOKS (Apr. 28, 2011), http://www.nybooks.com/articles/archives/2011/apr/28/wall-street-leviathan/?pagination=false, *archived at* http://perma.cc/EWE3-PRVS.

111. *Id.*

approachable and at times gripping account of the crisis."[112]

Although the style was generally praised, the substance faced far more criticism, including from the four dissenting members of the ten-member commission.[113] Three Republican members collaborated on a single dissent and a fourth, Peter Wallison from the American Enterprise Institute, a conservative think tank, issued a second dissent.[114] As the Republican dissenters noted, the report was "more an account of bad events than a focused explanation of what happened and why. When everything is important, nothing is."[115] The Economist newspaper sniffed, "[d]efinitive the report is not,"[116] whereas other reporters noted its "timidity."[117] Peter Wallison criticized not just the substance of the report, "a just so story about the financial crisis," but the process by which the FCIC majority created its report.[118] He charged that the report sought only "the facts that supported its initial assumptions—that the crisis was caused by 'deregulation' or lax regulation, greed and recklessness on Wall Street, predatory lending in the mortgage market, unregulated derivatives, and a financial system addicted to excessive risk-taking."[119]

The dueling narratives of the FCIC's majority and dissenting reports essentially follow the competing narratives of the left and right. The majority

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112. Hartlage, *supra* note 3, at 1184.

113. *Id.* at 1185.

114. *See* Peter Wallison, *Dissent from the Majority Report of the Financial Crisis Inquiry Commission*, American Enterprise Institute (Jan. 26, 2011), http://www.aei.org/papers/economics/fiscal-policy/dissent-from-the-majority-report-of-the-financial-crisis-inquiry-commission-paper/, *archived at* http://perma.cc/DZ6F-2V73 (discussing Peter Wallison's contribution as a panelist at the Indiana Law Review's symposium on *Law and the Financial Crisis* at the Indiana University Robert H. McKinney School of Law).

115. FCIC REPORT, *supra* note 3, at 414.

116. *The Official Verdict*, ECONOMIST (Feb. 3, 2011), http://www.economist.com/node/18060818?story_id=18060818, *archived at* http://perma.cc/QER8-SN9M.

117. Jesse Eisinger, *In Post Crisis Report a Weak Light on Complex Transactions,* N.Y. TIMES, Feb. 3, 2011, http://query.nytimes.com/gst/fullpage.html?res=9E0DE1D61F31F930A35751C0A9679D8B63, *archived at* http://perma.cc/5MBS-HHU7.

118. FCIC REPORT, *supra* note 3, at 444 (Wallison, dissenting).

119. *Id.* at 443. The report did not adequately explain why so many people did or failed to do so much before the crisis began. Although it serves as a thorough investigation, it fails to offer much explanation or adequate analysis. Notwithstanding its extensive nature, the investigation did not reveal much that was new. *See* Annie Lowrey, *The Financial Crisis Reading List: Do We Really Need an Official Government Report Telling Us How We Got into This Mess?*, SLATE (Dec. 16, 2010), http://www.slate.com/articles/business/moneybox/2010/12/the_financial_crisis_reading_list.single.html, *archived at* http://perma.cc/5XE5-HGMC (arguing that there was little in the report that was not already public and studied). Part of this was due to the statutory design that limited the FCIC's subpoena power. *See* Fraud Enforcement and Recovery Act of 2009, Pub. L. No. 111-21, § 5(b)(1)(C)–(D), (b)(3)(B), (d)(2), 123 Stat. 1617, 1625-26, 1628-29 (2009) (specifying required FCIC votes for issuing a subpoena).

report's headline conclusion was that "the crisis was avoidable,"[120] adding (perhaps for English majors) that "the fault lies not in the stars, but in us."[121] Regulators were "sentries . . . not at their posts"[122] as they took "little meaningful action"[123] to address risks caused by increased subprime lending and unregulated derivatives. The poorly regulated marketplace led to the misfeasance and malfeasance of incompetent and unscrupulous executives and employees in the financial sector.[124] More recent books have reached similar conclusions.[125] In contrast, the minority commission voted that the report should not even include terms such as "deregulation," "Wall Street," and "shadow banking."[126] Their dissenting report did not include them.[127]

A. Inadequate Regulation of Subprime Mortgages

In and of themselves, it should be obvious that subprime mortgages are not necessarily bad. They allow people who are higher credit risks to buy homes and thereby participate in the American Dream. But they can be, and were abused. There was undoubtedly some predatory lending, in that lenders sold people mortgages that could only be paid back if housing prices continued to rise.[128]

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120. FCIC REPORT, *supra* note 3, at xvii.

121. *Id.*

122. *Id.* at xviii.

123. *Id.* at xvii.

124. *Id.* at xvii-xxv (asserting nine major conclusions about the financial crisis: 1) the financial crisis was avoidable; 2) widespread failures in financial regulation and supervision proved devastating to the stability of the nation's financial markets; 3) dramatic failures of corporate governance and risk management at many systemically important financial institutions were a key cause of this crisis; 4) a combination of excessive borrowing, risky investments, and lack of transparency put the financial system on a collision course with crisis; 5) the government was ill prepared for the crisis, and its inconsistent response added to the uncertainty and panic in the financial markets; 6) there was a systemic breakdown in accountability and ethics; 7) collapsing mortgage-lending standards and the mortgage securitization pipeline lit and spread the flame of contagion and crisis; 8) over-the-counter derivatives contributed significantly to this crisis; and 9) the failures of credit rating agencies were essential cogs in the wheel of financial destruction).

125. *See, e.g.*, BLINDER, *supra* note 1, at 27-28 (listing, as factors, the villains of inflated asset prices, particularly of housing and securities: excessive leveraging; lax financial regulation; disgraceful subprime and other mortgage banking practices; unregulated derivatives derived from mortgages; abysmal performance by the ratings agencies; and perverse compensation systems).

126. Paul Krugman, *Wall Street Whitewash*, N.Y. TIMES, Dec. 16, 2010, http://www.nytimes.com/2010/12/17/opinion/17krugman.html?_r=0, *archived at* http://perma.cc/ HD2J-F89M.

127. *Id.*

128. *See* Eli Lehrer, *Subprime Borrowers: Not Innocents*, BLOOMBERG BUS. WK., http://www.businessweek.com/debateroom/archives/2008/03/subprime_borrowers_not_innocents.html, *archived at* http://perma.cc/B2J9-3K3E (last visited Feb. 2, 2014) (discussing the sub-prime mortgage crisis).

Moreover, there were very weak underwriting standards.[129] Mortgage brokers who believed in the "four Cs of credit"—character, capacity, collateral, and capital—were left behind.[130] Originators of mortgages increased the number of low documentation, no documentation, and "no income, no job, no assets" (NINJA) mortgages.[131] Some called these "liar loans,"[132] although liar might refer to either the borrower or anyone involved in arranging the loan. The non-English speaking strawberry-picker, dubbed an "agricultural expert" or "field technician" on the loan documents, who earned $15,000 a year, but qualified for a $720,000 mortgage is illustrative.[133] Partly as a result of this kind of dubious lending, subprime mortgages increased dramatically from less than 7% of all mortgages in 2001 to 20% in 2005.[134] The value of these subprime mortgages in 2005 was $625 billion, with a total outstanding value of nearly $1.25 trillion.[135]

Sheila Bair, then Assistant Secretary of the Treasury, called for increased and improved regulation just before the explosion of subprime mortgages.[136] She wanted federal banking regulators to impose standards on banks and for non-regulated financial entities to commit to compliance with those standards.[137] All she was able to achieve, however, was an unenforceable industry code of best practices.[138]

Moreover, because the originators of these mortgages, such as Countrywide, were securitizing the loans—an originate-to-sell model rather than the traditional originate-to-hold model—they cared much less about whether the mortgages would be repaid.[139] The securitized loans, primarily residential MBSs, spawned

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129. *See* Rajdeep Sengupta & Bryan J. Noeth, *Underwriting on Subprime Mortgages: What Really Happened?*, FED. RES. BANK OF ST. LOUIS (Winter 2010), http://www.stlouisfed.org/publications/cb/articles/?id=2040, *archived at* http://perma.cc/BU8N-VDCK (discussing underwriting standards leading up to the sub-prime mortgage crisis).

130. *See* MCLEAN & NOCERA, *supra* note 2, at 23.

131. POSNER, *supra* note 14, at 23.

132. FCIC REPORT, *supra* note 3, at 9.

133. Carol Lloyd, *Minorities Are the Emerging Face of the Subprime Crisis*, SF GATE (Apr. 13, 2007), http://www.sfgate.com/entertainment/article/Minorities-are-the-emerging-face-of-the-subprime-2565428.php#page-3, *archived at* http://perma.cc/E8GS-DNZH; *see also* Paul Wagner, *Home, Sweet Hell*, METROACTIVE (Sept. 9, 2008) http://www.metroactive.com/metro-santa-cruz/09.03.08/cover-0836.html, *archived at* http://perma.cc/8U9P-2PZT.

134. CASSIDY, *supra* note 2, at 256.

135. Bob Ivry, *FHA Will Take on Subprime Loans Shunned by Lenders (Update2)*, BLOOMBERG (Oct. 6, 2008), http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aougwNu_W.Zc; *Subprime mortgage crisis*, UNIV. N.C. 1, 13, *available at* www.stat.unc.edu/ (last visited Feb. 2, 2014).

136. Ryan Lizza, *The Contrarian*, NEW YORKER (July 6, 2009), http://www.newyorker.com/reporting/2009/07/06/090706fa_fact_lizza, *archived at* http://perma.cc/4VNC-EU97 (profiling Sheila Bair).

137. *Id*.

138. *Id*.

139. *See* William W. Lang & Julapa Jagtiani, *The Mortgage and Financial Crises: The Role

follow-on derivative securities such as CDOs. Any of the four governmental banking agencies (the Federal Reserve, Office of Thrift Supervision, FDIC, and OCC) could have significantly slowed the growth of subprime lending, but none of them did.[140] The Federal Reserve bears the most responsibility, as it "was really the only authority that could set lending standards across the board—banks, non-bank lenders, any mortgagor."[141]

B. Inadequate Regulation of Derivative Financial Products

Subprime mortgages flowed through the entire financial system as their availability and investor demand increased.[142] First, investment banks created MBSs.[143] To do this, the banks combined thousands of mortgages and then divided them into tranches that each had different risk/reward ratios and, thus, different credit ratings.[144] The banks then pooled the payments from the MBSs into CDOs, again with different risks and ratings.[145] The banks also used those CDOs to create synthetic CDOs, and so on, until there was an enormous amount of derivative securities that ultimately depended on subprime mortgages for their value.[146] Complex derivatives were what Warren Buffet in 2003 famously called "financial weapons of mass destruction, carrying dangers that . . . are potentially lethal,"[147] suggesting they might cause "serious systemic problems."[148]

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of Credit Risk Management and Corporate Governance, UNIV. OF PENN. 1, 2 (Feb. 9, 2010), *available at* http://fic.wharton.upenn.edu/fic/papers/10/10-12.pdf (discussing how "the 'originate-to-distribute' model distort[ed] incentives for risk taking, since lenders no longer had 'skin in the game').

140. As Alan Blinder asks, "[d]id the regulators really believe that subprime mortgage lending could expand that rapidly *without* deterioration of quality?" BLINDER, *supra* note 1, at 58. He later explains that the choice is either deterioration of quality or that a "huge number of creditworthy subprime borrowers suddenly appeared out of nowhere." *Id.* at 70.

141. *See* Lizza, *supra* note 136.

142. *See* Winston W. Change, *Financial Crisis of 2007-2010*, SUNY BUFFALO 1, 7 (Sept. 24, 2010) (discussing the high investor demand for subprime lending).

143. *See* Jeff Holt, *A Summary of the Primary Causes of the Housing Bubble and the Resulting Credit Crisis: A Non-Technical Paper*, 8 J. BUS. INQUIRY 120, 122 (2009) (discussing mortgage-backed securities).

144. *Id*. at 125.

145. *See Collateralized Debt Obligation—CDO*, INVESTOPEDIA, http://www.investopedia.com/terms/c/cdo.asp, *archived at* http://perma.cc/HB9J-WW9P (last visited June 28, 2014) (explaining collateralized debt obligations).

146. *See* Frank Partnoy & David A. Skeel, Jr., *The Promise and Perils of Credit Derivatives*, 75 U. CIN. L. REV. 1019, 1020 (2006-2007) (discussing synthetic CDOs and the risks of credit derivatives).

147. BERKSHIRE HATHAWAY INC., 2002 ANNUAL REPORT 15 (2003), *available at* http://www.berkshirehathaway.com/2002ar/2002ar.pdf, *archived at* http://perma.cc/ETM9-QDXX.

148. *Id.* at 14. Indeed, before the crisis derivatives caused such high-profile collapses as Enron in 2001 and Long Term Capital Management in 1998. *See, e.g.*, Randall Dodd, *Derivatives*

Brooksley Born, then Chair of the Commodity Futures Trading Commission (CFTC) in 1998, proposed regulating what she called a "completely dark market"[149] of over-the-counter derivatives.[150] Robert Rubin and Larry Summers, among other members of the Clinton Administration, strongly criticized the concept paper.[151] A key idea was that derivatives should be traded on an exchange with a central counterparty, rather than as individual contracts between parties.[152] The central counterparty would guarantee the performance of the contract, thereby reducing the buyer's and seller's risk that the other would default.[153] As it was by accepting the seller's credit risk, credit default swap buyers did something akin to "buying insurance for the Titanic from someone on the Titanic."[154]

Congress, however, chose instead of regulation a laissez-faire approach, with the Commodity Futures Modernization Act of 2000 (CFMA).[155] Ironically, the CFMA expressly intended "to reduce systemic risk and provide greater stability to markets during times of market disorder."[156] This legislation ensured that nearly all over-the-counter derivatives traded between wealthy or sophisticated parties were not directly regulated.[157] As a result, derivatives reached an

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Markets: Sources of Vulnerability in U.S. Financial Markets, FIN. POLICY FORUM DERIVATIVE STUDY CTR. 2-3 (May 10, 2004), *available at* http://www.financialpolicy.org/fpfspr8.pdf, *archived at* http://perma.cc/V7V3-3ZRU.

149. *Frontline: Interview: Brooksley Born* (PBS television broadcast Aug. 28, 2009), *available at* http://www.pbs.org/wgbh/pages/frontline/warning/interviews/born.html *archived at* http://perma.cc/VY9Z-9NZY ("What was it that was in this [over the counter derivative] market that had to be hidden? Why did it have to be a completely dark market?").

150. *See* Over-the-Counter Derivatives, 63 Fed. Reg. 26114 (proposed May 12, 1998). ("[Over-the-Counter] derivatives are contracts executed outside of the regulated exchange environment whose value depends on (or derives from) the value of an underlying asset, reference rate, or index.").

151. *See* MCLEAN & NOCERA, *supra* note 2, at 105-09 (providing a detailed account of Born's failed attempt to regulate derivatives); *see also* Manuel Roig-Franzia, *Brooksley Born, the Cassandra of the Derivatives Crisis*, WASH. POST, May 26, 2009, http://www.washingtonpost.com/wp-dyn/content/article/2009/05/25/AR2009052502108.html, *archived at* http://perma.cc/JS8R-4JT3.

152. *Id*. at 5.

153. *See* Marcus Zickwolff, *The Role of Central Counterparties in Financial Crisis Recovery*, WORLD FEDERATION OF EXCHANGES, http://www.world-exchanges.org/insight/views/role-central-counterparties-financial-crisis-recovery *archived at* http://perma.cc/B5N4-HWRU (last visited Feb. 1, 2014) (discussing the role of Central Counterparties in derivatives trading).

154. Rana Foroohar, *Nassim Taleb on the Markets*, NEWSWEEK (Nov. 14, 2008), *available at* http://www.newsweek.com/nassim-taleb-markets-85443 (quoting investor Nassim Taleb, author of several best-selling books).

155. Commodity Futures Modernization Act § 1, 7 U.S.C. § 1 (2000).

156. Commodity Futures Modernization Act of 2000, Pub. L. No. 106-554, § 2, 114 Stat. 2763, 2763 (2000).

157. The CFMA used the term "Eligible Contract Participants" which are defined in § 101.

estimated notional value of nearly $600 trillion by 2007.[158] One of Nobel Laureate Paul Krugman's favored explanations is that "[r]egulation didn't keep up with the system."[159] Likewise, Nobel Laureate Joseph Stiglitz said more cautiously, "it is absolutely clear to me that if we had restricted the derivatives, some of the major problems would have been avoided."[160] Current Federal Reserve Chairman Ben Bernanke seems to agree.[161] Most agree that the CFMA was a significant cause of the crisis.[162]

However, even if the CFMA helped magnify the crisis, part of the uncertainty concerns the counterfactual of what the alternative would have been. It does not appear likely that Congress would have permitted the CFTC to regulate derivatives even in the CFMAs absence. Great regulation, maybe even good regulation, could have prevented the growth of harmful derivatives. On the other hand, bad regulation, or even the CFTC's proposed regulation, might not have had the desired effect. A centralized exchange, for example, might simply increase the demand for derivatives and concentrate the credit risk.[163] It remains unknown what kinds of regulations would have been feasible, had they only been proposed in place of the CFMA.

C. Inadequate Regulation of the Rating Agencies

Credit ratings agencies—or more precisely the nationally recognized

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158. John Kiff et al., *Credit Derivatives: Systemic Risks and Policy Options* 3 (Int'l Monetary Fund, Working Paper No. 09/254, 2009), *available at* http://www.imf.org/external/pubs/ft/wp/2009/wp09254.pdf, *archived at* http://perma.cc/9GJ9-7FZ4. "Notional value" results in a somewhat inflated send of the overall value. A credit default swap, for example, that might have cost the buyer $10,000 could have a notional value of $1,000,000, i.e., the underlying insured amount.

159. *Nobelist Paul Krugman Explains the Financial Crisis,* NEWSWEEK (Oct. 17, 2008), http://www.newsweek.com/nobelist-paul-krugman-explains-financial-crisis-91869 (predicting that regulation would increase and securitization would be reduced, "and mortgages in south Florida won't be held in Norway.")

160. *Frontline: Interview: Joseph Stiglitz* (PBS television broadcast July 28, 2009), *available at* http://www.pbs.org/wgbh/pages/frontline/warning/interviews/stiglitz.html *archived at* http://perma.cc/W8G4-7HLV.

161. Ben S. Bernanke, Chairman, Bd. of Governors of the Fed. Reserve System, Testimony Before the Financial Crisis Inquiry Commission (Sept. 2, 2010), *available at* http://www.federalreserve.gov/newsevents/testimony/bernanke20100902a.htm, *archived at* http://perma.cc/5E5F-7GXB.

162. *See, e.g.*, Lynn A. Stout, *Uncertainty, Dangerous Optimism, and Speculation: An Inquiry Into Some Limits of Democratic Governance*, 97 CORNELL L. REV. 1177, 1209 n.129 (2012) (providing sources). *See also* Graham Summers, *Why Derivatives Caused Financial Crisis,* SEEKING ALPHA (Apr. 12, 2010), http://seekingalpha.com/article/198197-why-derivatives-caused-financial-crisis, *archived at* http://perma.cc/S2TZ-5QTD ("[D]erivatives caused THE financial crisis") (emphasis in original).

163. *See, e.g.*, Calabria, *supra* note 104, at 7.

securities ratings organizations or NRSROs—are supposed to rate the riskiness of securities.[164] In 2003 there were only three agencies approved by the SEC as NRSOSs, Standard & Poor's (S&P), Fitch, and Moody's.[165] This privileged position allowed these agencies to grow quickly, doubling revenues from 2002 to 2006, with Moody's having "the highest profit margin of any company in the S&P 500 for five years in row."[166]

The ratings bestowed upon securities by the rating agencies were absolutely critical, because other regulations, like the SEC's "net capital rule," depended on them.[167] Some investors, for example, are only permitted to buy certain grades of investments.[168] As the SEC observed in 2003, "ratings by NRSROs today are widely used as benchmarks in federal and state legislation, rules issued by financial and other regulators, foreign regulatory schemes, and private financial contracts."[169] The FCIC was thus able to conclude, "[t]he mortgage-related securities at the heart of the crisis could not have been marketed and sold without their seal of approval."[170] Once the securities were sold, however, their value collapsed following homeowners' default on mortgages.[171] Rating agencies gave top triple A investment-ratings to securities that in fact were very risky.[172]

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164. *See Credit Rating Agencies and Nationally Recognized Statistical Rating Organizations (NRSROs)*, U.S. SEC. AND EXCH. COMM'N (last modified May 31, 2013), http://www.sec.gov/answers/nrsro.htm *archived at* http://perma.cc/D9RE-PWWJ (discussing the role of NRSROs in assessing the creditworthiness of an entity with respect to specific securities and money market instruments).

165. As of the end of 2013 there were ten Nationally Recognized Statistical Rating Organizations ("NRSROs"), http://www.sec.gov/News/PressRelease/Detail/PressRelease/1370540557017#.U20CgDxdVAc (last visited April 2, 2014).

166. Dealbook, *Ratings Agencies Draw Fire on Capitol Hill*, N.Y. TIMES, Oct. 22, 2008, http://dealbook.nytimes.com/2008/10/22/rating-agencies-draw-fire-capitol-hill/, *archived at* http://perma.cc/V98Q-VH3A (quoting Henry Waxman, Chair of the House Committee on Oversight and Government Reform). Warren Buffet invested in Moody's due to its strong pricing power and because it was "a natural duopoly" (as Fitch was very small). FCIC REPORT, *supra* note 3, at 207 (quoting Warren Buffet).

167. *Examining the Role of Credit Rating Agencies in the Capital Markets: Hearing Before the H. Comm. on Banking, Housing, and Urban Affairs*, 109th Cong. (2005) (statement of Richard C. Shelby, Chairman of H. Comm. on Baking, Housing, and Urban Affairs).

168. *See* Frank Partnoy, *Overdependence on Credit Ratings Was a Primary Cause of the Crisis*, YALE UNIV. 1, 1, http://www.law.yale.edu/documents/pdf/cbl/Partnoy_Overdependence_Credit.pdf, *archived at* http://perma.cc/P7C8-KYY7 (last visited Feb. 2, 2014) (discussing how overdependence on NRSRO credit ratings led to the 2008 financial crisis).

169. *Concept Release: Rating Agencies and the Use of Credit Ratings under the Federal Securities Laws*, Securities and Exchange Commission, Release Nos. 33-8236, http://www.sec.gov/rules/concept/33-8236.htm, *archived at* http://perma.cc/A3DN-TZWW.

170. FCIC REPORT, *supra* note 3, at xxv.

171. *See* Holt, *supra* note 143, at 120 (discussing the primary causes of the housing bubble and the resulting credit crisis).

172. *See* Matt Krantz, *2008 Crisis Still Hangs Over Credit-rating Firms*, USA TODAY, Sept.

Rating agencies looked at the combined payouts from low ranked tranches of the mortgage-backed securities into CDOs, and gave the new securities investment grade ratings.[173] Like when Rumpelstiltskin turned straw into gold, the rating agencies' ratings transformed junk securities into investment grade securities. Combining a large number of risky payments (the subprime mortgages combined into MBS) could theoretically create less risky security if the payments were sufficiently independent of each other.[174] The problem was not with the theory, it was that payments were not independent of each other.[175] The rating agencies' models apparently failed to include possibilities like a nationwide decline in the price of housing.[176] Standard & Poor's chief credit officer later admitted the model they used was barely better than flipping a coin.[177] With the benefit of hindsight, the optimistic rating of the securities built on subprime mortgages was perhaps the largest mispricing of risk ever.[178]

Why were the rating agencies' models and thus their ratings so colossally wrong? Some answers include conflicts of interest, related competitive pressures (or sometimes a lack of competition), incompetence,[179] or perhaps simply the problem of rating a very complicated security.[180] The most important factor may

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13, 2013, http://www.usatoday.com/story/money/business/2013/09/13/credit-rating-agencies-2008-financial-crisis-lehman/2759025/, *archived at* http://perma.cc/FMJ5-KSRH (discussing the role of credit-rating firms in the 2008 financial crisis).

173. *See id*. (discussing the role of credit-rating firms' ratings in marketing risky mortgage-backed securities, such as CDOs).

174. *See* Roger Lowenstein, *Triple-A Failure*, N.Y. TIMES, Apr. 27, 2008, http://www.nytimes.com/2008/04/27/magazine/27Credit-t.html?pagewanted=all, *archived at* http://perma.cc/GU8Q-LKJU (discussing the bundling of sub-prime mortgages to create suitable investments); *see also* Stephen Hsu, *Central Limit Theorem and Securitization: How to Build a CDO*, INFORMATION PROCESSING (Nov. 16 2008), http://infoproc.blogspot.com/2008/11/central-limit-theorem-and_16.html *archived at* http://perma.cc/PLZ6-F3FA (explaining how CDOs can be made less risky if the individual default probabilities are independent of each other).

175. *See* Hsu, *supra* note 174 (discussing why CDOs are risky if the default probabilities are not independent of each other).

176. *See* Christopher Alessi et al., *The Credit Rating Controversy*, COUNCIL ON FOREIGN RELATIONS (Oct. 22, 2013), http://www.cfr.org/financial-crises/credit-rating-controversy/p22328, *archived at* http://perma.cc/PK37-GBZB (discussing how credit-rating firms failed to judge the likelihood of the decline in housing prices and their effect on loan defaults).

177. *See* Susan Beck, *The Treasure Buried in Financial Crisis Litigation*, AM. LAW., June 19, 2013 (quoting a deposition from Frank Parisi, S&P's chief credit officer for structured finance).

178. *See* Lang & Jagtiani, *supra* note 139; Aline Darbellay & Frank Partnoy, *Credit Rating Agencies Under the Dodd-Frank Act*, 30 BANKING & FINANCIAL SERVICES POLICY REPORT 1, 2 (2011) (noting, for example, that "[i]n 2006, 869 billion US dollars of mortgage-related securities were rated triple-A by Moody's and 83 percent went on to be downgraded within six months").

179. *See* LEWIS, *supra* note 2, at 156 (describing how the best analysts would leave for higher paying investment banking jobs).

180. *See, e.g.*, John B. Taylor, *How Government Created the Financial Crisis*, WALL ST. J., Feb. 9, 2009, http://online.wsj.com/article/SB123414310280561945.html, *archived at* http://perma.

well be the conflicts of interest.[181] Rating agencies are paid by the issuers of securities—the parties that most want the higher ratings.[182] The conflict of interest was obvious and transparent.[183] In one famous instant message conversation between Standard & Poor employees, the two analysts agreed that they should not be rating the security, and that their model definitely did not capture the risk involved.[184] One concluded that a deal "could be structured by cows and we would rate it."[185] Or as Mr. McDaniels of Moody agreed, at times "we drink the Kool-Aid."[186] The conflicts were exacerbated as the issuers could shop around between agencies for the rating they wanted,[187] and would not necessarily disclose all of the relevant characteristics of the assets that underlay the securities.[188]

The rating agencies' poor performance would not have brought about the financial crisis on its own.[189] But it is also fair to say that the financial crisis could not have occurred at anything like the scale at which it did without the rating agencies' failures.[190]

D. Leverage

Allowing self-regulation of leverage limits, resulting in excessive leverage, by investment banks was one of the reasons for the financial crisis.[191] In June

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cc/RV2G-QSUH. *See also* Beck, *supra* note 177 (quoting a ratings agency analyst's email stating "I had difficulties explaining 'HOW' we got to those numbers since there is no science behind it.").

181. A conflict of interest can lead to biased behavior without any conscious malfeasance. *See, e.g.*, Antony Page, *Unconscious Bias and the Limits of Director Independence*, 2009 U. ILL. L. REV. 237, 259.

182. Allana M. Grinshteyn, Note, *Horseshoes and Hand Grenades: The Dodd-Frank Act's (Almost) Attack On Credit Rating Agencies*, 39 HOFSTRA L. REV. 937, 944 (2011).

183. *Id.*

184. *Ratings Agencies Draw Fire on Capitol Hill*, N.Y. TIMES, Oct. 28, 2008, http://dealbook.nytimes.com/2008/10/22/rating-agencies-draw-fire-capitol-hill/, *archived at* http://perma.cc/6YAV-6ZL3.

185. *Id.*

186. Jesse Eisinger, *Vows of Change at Moody's, but Flaws Remain the Same*, N.Y. TIMES, Apr. 13, 2011, http://dealbook.nytimes.com/2011/04/13/vows-of-change-at-moodys-but-the-flaws-remain-the-same/, *archived at* http://perma.cc/HP78-UKKK.

187. *See, e.g.*, David McLaughlin, *S&P Analyst Joked of Bringing Down the House Before Crash*, BLOOMBERG (Feb. 6, 2013), http://www.bloomberg.com/news/2013-02-05/s-p-analyst-joked-of-bringing-down-the-house-ahead-of-collapse.html, *archived at* http://perma.cc/A7GN-CJ9J.

188. LEWIS, *supra* note 2, at 99-100.

189. FCIC REPORT, *supra* note 3, at xxv (2011), *available at* http://www.gpo.gov/fdsys/pkg/GPO-FCIC/pdf/GPO-FCIC.pdf, *archived at* http://perma.cc/UDF9-FG64 (stating "[w]e conclude that failures of credit rating agencies were essential cogs in the wheel of financial destruction").

190. *Id.*

191. *Id.*

2004, the SEC allowed the large investment banks to regulate their own capital levels.[192] Leverage then increased.[193] Merrill's leverage doubled, for example.[194] Bear Stearns went to $33 of debt for every dollar of equity.[195] Of course this didn't last long, because all five investment banks stopped being investment banks—Lehman went bankrupt, Bear and Merrill were acquired, and Goldman and Morgan Stanley became banks.[196]

Leverage, understood as the ratio of assets to capital, was too high.[197] In essence, the higher the leverage, the greater the chance of a company failing.[198] Bear Stearns and Lehman Brothers both had leverage of over thirty (i.e., for every dollar of capital (equity) there was more than thirty dollars of assets.)[199] In contrast, a mortgage with the traditional 20% down payment would have a ratio of five, a slimmer 10% down payment would have ten, a 1% down payment would have one hundred, and if a buyer paid no down payment at all, the ratio would be infinite.[200]

While most parties agree that leverage before the crisis was too high, the cause of this is disputed.[201] At the time, and for at least a few years after the crisis, commentators claimed that the increase in leverage resulted from a 2004 change in SEC rules.[202] Respected economists such as Alan Blinder, for example,

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192. Stephen Labaton, *Agency's '04 Rule Let Banks Pile Up New Debt*, N. Y. TIMES, Oct. 2, 2008, *archived at* http://perma.cc/5Z88-3LBA.

193. U.S. Gov't Accountability Office, GAO-B-294184, SECURITIES AND EXCHANGE COMMISSION: ALTERNATIVE NET CAPITAL REQUIREMENTS FOR BROKER-DEALERS THAT ARE PART OF CONSOLIDATED SUPERVISED ENTITIES (2004).

194. Labaton, *supra* note 192.

195. *Id.*

196. *Id.*

197. Julie Satow, *Ex-SEC Official Blames Agency for Blow-Up of Broker-Dealers*, N.Y. SUN (Sept. 18, 2008), http://www.nysun.com/business/ex-sec-official-blames-agency-for-blow-up/86130/, *archived at* http://perma.cc/H9PP-683C.

198. FCIC REPORT, *supra* note 3, at 32 (2011) (stating "[w]e conclude that failures of credit rating agencies were essential cogs in the wheel of financial destruction").

199. *Id.*

200. FREDRICK S. WEAVER, ECONOMIC LITERACY: BASIC ECONOMICS WITH AN ATTITUDE 172 (3d ed. 2011).

201. Rolfe Winkler, *Leverage by the Numbers*, REUTERS (Nov. 24, 2008), http://blogs.reuters.com/rolfe-winkler/2008/11/24/leverage-by-the-numbers/ *archived at* http://perma.cc/ZR5X-XS7J.

202. Bethany McLean, *The Meltdown Explanation that Melts Away,* REUTERS (Mar. 19, 2012), http://blogs.reuters.com/bethany-mclean/2012/03/19/the-meltdown-explanation-that-melts-away/, *archived at* http://perma.cc/E8TP-BMUD (claiming this "fact" [SEC rule change resulted in dramatically increased leverage] became part of the conventional wisdom about the crisis); Barry Ritholtz, *What Caused the Financial Crisis? The Big Lie Goes Viral*, WASH. POST, Nov. 5, 2011, http://www.washingtonpost.com/business/what-caused-the-financial-crisis-the-big-lie-goes-viral/2011/10/31/gIQAXlSOqM_story_1.html, *archived at* http://perma.cc/PW42-4HGM (asserting that the SEC changed its rules in 2004 thereby allowing the five investment banks unlimited leverage instead of a maximum of twelve-to-one).

stated that leverage shot up from around twelve-to-one to thirty-three-to-one as a result of this change,[203] as did Kenneth Rogoff and others,[204] including noted law professor John C. Coffee.[205] Daniel Gross in *Slate Magazine* stated, "Perhaps the most disastrous decision of the past decade was the Securities and Exchange Commission's 2004 rule change allowing investment banks to increase the amount of debt they could take on their books."[206]

The rule at issue, SEC Rule 15c3-1, although complicated, did not significantly affect the relevant leverage.[207] In particular, the rule targeted leverage at the holding company level (which had been unaffected by the earlier version of Rule 15c3-1)[208] rather than at the broker dealer level.[209] Some of the companies that were later alleged to have increased their leverage ratios after 2004 had ratios of twenty-eight to one in 1998—higher than their ratios at the end of 2006.[210] For those who wanted to see a failure of (or permissive) regulation, this was a plausible story, [211] even though publicly available information would have readily disproved it.[212]

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203. Alan S. Blinder, *Six Errors on the Path to the Financial Crisis*, N.Y. TIMES, Jan. 24, 2009, http://www.nytimes.com/2009/01/25/business/economy/25view.html?_r=0, *archived at* http://perma.cc/H2AE-BT9Y (wondering "What were the S.E.C. and the heads of the firms thinking?").

204. REINHART & ROGOFF, *supra* note 1, at 214 (referring to the "2004 decision of the Securities and Exchange Commission to allow investment banks to triple their leverage ratios (that is, the ratio measuring the amount of risk to capital)" as a huge regulatory mistake); *see also* ROUBINI & MIHM, *supra* note 1, at 75; STIGLITZ, *supra* note 1, at 163.

205. John C. Coffee, *Analyzing the Credit Crisis: Was the SEC Missing in Action?*, N.Y. L.J., (2008). *See also* Robert J. Rhee, *The Decline of Investment Banking: Preliminary Thoughts on the Evolution of the Industry 1996-2008,* 5 J. BUS. & TECH. L. 75, 82-83 (2010.

206. Daniel Gross, *The Gang of Five and How They Nearly Ruined Us*, SLATE (Jan. 29, 2010), http://www.slate.com/articles/business/moneybox/2010/01/the_gang_of_five_and_how_they_nearly_ruined_us.html, *archived at* http://perma.cc/L68J-EMUP.

207. 17 C.F.R. § 240.15c3-1 (2005) (net capital requirements for brokers or dealers).

208. *Cf.* 17 C.F.R. § 240.15c3-1 (2003) and 17 C.F.R. § 240.15c3-1 (2005).

209. William D. Cohan, *How We Got the Crash Wrong*, ATLANTIC (May 21, 2012), http://www.theatlantic.com/magazine/archive/2012/06/how-we-got-the-crash-wrong/308984/, *archived at* http://perma.cc/G8LH-HNHK.

210. U.S. Gov't Accountability Office, Rep. No. GAO-09-739, at 40 (2009) (finding that "of four of the five broker-dealer holding companies that later [were covered by Rule 15c3-1] . . . three had ratios equal to or greater than 28-to-1 at fiscal year end 1998, which was higher than their ratios at fiscal year-end 2006 before the crisis began"), *available at* http://www.gao.gov/assets/300/292767.html; *see also* FCIC REPORT, *supra* note 3, at 153-54 (noting that although leverage at the investment banks increased in 2004-07, in most cases it had been higher in the late 1990s). Leverage in fact has fluctuated an enormous amount, ranging from below eight to one in the early 1970s to occasionally exceeding thirty-five to one in the 1950s. *See* Cohan, *supra* note 209.

211. *See* Andrew W. Lo & Mark T. Mueller, *Warning! Physics Envy May be Hazardous to Your Wealth*, 8 J. OF INV. MGMT. 13 (2010), *available at* http://arxiv.org/pdf/1003.2688.pdf.

212. *See* MCLEAN & NOCERA, *supra* note 2 (describing how a semi-retired lawyer and a

E. Low Interest Rates

Another area of dispute is the role of Greenspan's low-interest rate policy.[213] Alan Greenspan kept interest rates low, arguably too low, in the early 2000s. This could have contributed to the growth of the real estate bubble, as a would-be home buyer's monthly payments could support higher mortgages and thus higher prices.[214] More precisely, to form a bubble, housing prices would increase by more than they *should* increase, as standard economic theory "says that low interests rates *should* increase house values (or the value of any long-lived asset for that matter)."[215] Lower interest rates might also have contributed to the crash by encouraging greater demand for the higher-yielding derivative securities that magnified the crisis.[216] More indirectly, low interest rates can bring about reduced saving because saving becomes less attractive.

The dispute is not so much over interest rate's causal role, but rather over its extent. Professor John B. Taylor argues that unusually low interest rates, set in deviation from past practices and precedents, "should be first on the list of answers to the question of what went wrong."[217] Judge Richard Posner is in the same camp, asserting that low interest rates were one of two "dangerous developments" that resulted in the crisis.[218] John A. Allison, Chief Executive Officer of BB&T, a large financial service company, for nearly 20 years until

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retired investment banker identified the error).

213. *See, e.g.*, Alan Greenspan, *The Fed Didn't Cause the Housing Bubble*, WALL ST. J. Mar. 11, 2009, *available at* http://online.wsj.com/articles/SB123672965066989281 (arguing that Greenspan's monetary policy was not at fault). *See also* David Henderson & Gerald P. O'Driscoll Jr., *Did the Fed Cause the Housing Bubble?*, WALL ST. J. Mar. 27, 2009, *available at* http://online.wsj.com/news/articles/SB123811225716453243 (disputing the role of the low-interest rate policy).

214. By way of example, $100,000 borrowed on a thirty year mortgage at 5% interest requires a monthly payment of $537. The same monthly payment with a 10% interest rate only supports borrowing of $58,419. http://www.bankrate.com/calculators/mortgages/how-much-money-can-i-borrow.aspx.

215. Kenneth Kuttner, *Low Interest Rates and Housing Bubbles: Still No Smoking Gun,* at 160, *in* THE ROLE OF CENTRAL BANKS IN FINANCIAL STABILITY (Douglas Evanoff ed., 2013), (emphasis in original), *available at* http://web.williams.edu/Economics/wp/Kuttner-smoking-gun.pdf, *archived at* http://perma.cc/RRD6-FFDE; *see also id.* at 160-64 (explaining the impact of interest rates on housing prices). Kuttner goes on to argue that credit might have become looser due to lowered lending standards and increased securitization of loans. *Id.* at 181.

216. NPR, *Giant Pool of Money*, Sept. 5, 2008 (explaining how investors looked for higher yielding securities given the low US interest rates). *available at* http://www.thisamericanlife.org/radio-archives/episode/355/transcript

217. TAYLOR, *supra* note 1, at 61. John B. Taylor is a professor of economics at Stanford University, and is a former Under Secretary of the U.S. Treasury for International Affairs. He was also a member of the President's Council of Economics Advisors.

218. POSNER, *supra* note 14, at 315. The other development that led to the crisis according to Posner was deregulation. *Id.*

2008, claims it was the "primary cause."[219]

Most economists disagree.[220] In 2010, the *Wall Street Journal* provided a sampling of the views of economists who were part of the National Bureau of Economic Research's Monetary Policy Program posed with the question "whether low interest rates caused the housing bubble."[221] Without being too technical, economists disputed whether interest rates were that much lower in the relevant time period;[222] if they were, whether the impact was significant;[223] and whether the Federal Reserve itself could have done very much.[224] Those who agreed that low interest rates were a significant cause included it as one of several causes rather than a top or leading cause.[225]

The FCIC essentially gave Greenspan and interest rate policy a free pass, concluding that "excess liquidity did not need to cause a crisis,"[226] which is no doubt correct, if one accepts that there were no causes that were sufficient on their own. Easy credit, however, appears to be very important: "[i]n a modern

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219. *See* JOHN A. ALLISON, THE FINANCIAL CRISIS AND THE FREE MARKET CURE: WHY PURE CAPITALISM IS THE WORLD ECONOMY'S ONLY HOPE 17 (2012).

220. *See, e.g.*, *Economists' Views on Interest Rates, Housing Bubble*, WALL ST. J., Jan 12, 2010, http://blogs.wsj.com/economics/2010/01/12/economists-views-on-interest-rates-housing-bubble/, *archived at* http://perma.cc/BD8G-DX39 [hereinafter *Economists' Views*].

221. *Id.*

222. *Id.* (quoting Christopher House stating, "[w]hile the interest rate was below normal for some time it may not have been far below normal" and Kenneth Kuttner pointing out that "[t]he 'bubble' didn't really get going until 05-06, by which time the Fed had raised rates to more or less normal levels."). The article overall reminds one of the old line attributed to George Bernard Shaw, "if all economists were laid end to end they would not reach a conclusion." (*available at* http://www.quotationspage.com/quote/23681.html).

223. *Id.* (quoting Brad Delong, arguing that lower than usual interest rates would have led to only a 6% increase in prices); *see also* Kuttner, *supra* note 215, at 22 (arguing that "all available evidence . . . points to a rather small effect of interest rates on housing prices."); Peter Wallison, *Was The Financial Crisis Caused By Monetary Policy? Comments On A Speech By John B. Taylor* (Jan. 4, 2013), http://www.aei.org/speech/economics/financial-services/comments-on-a-speech-by-john-b-taylor/, *archived at* http://perma.cc/W8GW-3YE9 (presenting charts showing that much of the housing pricing boom occurred before the period of unusually low interest rates).

224. *Economists' Views*, *supra* note 220 (quoting Chris Sims saying, "[t]here may not have been a great deal that the Fed itself, without legislative cooperation, could have done about the situation as the housing bubble developed" and Jonathan Parker noting that "Fed did not have the legal authority to change or enforce regulations in most of the areas where these actions could have mitigated the crisis"). Alan Greenspan himself doubts whether there was much the Federal Reserve could have done. *See* Kristina Cooke, *Recession Will Be Worst Since 1930's: Greenspan*, REUTERS (Feb. 18, 2009), http://www.reuters.com/article/2009/02/18/us-usa-fed-greenspan-idUSTRE51H0OX20090218, *archived at* http://perma.cc/L58B-PF8J.

225. *Economists' Views*, *supra* note 220 (quoting Michael Bordo who stated there were several causes of the housing boom but low interest rates "provided much of the fuel").

226. FCIC Report, *supra* note 3, at xxvi. Low interest rates typically result increased liquidity. *See, e.g.*, RAJAN, *supra* note 1, at 168.

economy with a large financial sector, the combination of cheap money and lax oversight, if maintained for years on end, is sure to lead to trouble."[227] Likewise, an *Economist* article concluded, "[a]sk people in property what caused the crisis and the answer will invariably be the amount of liquidity in the system."[228]

F. Government Housing Policy

Perhaps the most heated dispute has been over the role of the government's housing policy in leading to the crisis. The federal government has long encouraged home-ownership—witness the mortgage deduction from income tax—and succeeding administrations have made it a priority.[229]

Of government policies, the Community Reinvestment Act's (CRA)[230] role in the crisis has been most controversial.[231] The CRA, passed in 1977, was primarily targeted at "redlining," the refusal to lend to some borrowers (typically minorities) and neighborhoods regardless of credit-worthiness.[232] A more loaded description is that the CRA's "real purpose was to force banks to make loans to low-income borrowers, especially minorities and particularly African-Americans."[233] It required federal regulators to evaluate banks' performance in lending to lower income borrowers and communities where banks have a presence, and consider these evaluations on banks' expansion plans.[234] The CRA did not, however, set minimum targets or quotas.[235]

The FCIC concluded it "was not a significant factor" in the financial crisis

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227. CASSIDY, *supra* note 2, at 233.

228. *The Official Verdict*, *supra* note 116. Some of that liquidity may also have been caused by an influx of foreign capital. *Id.*

229. A. Mechele Dickerson, *Public Interest, Public Choice, and the Cult of Homeownership,* 2 UC IRVINE L. REV. 843, 845 (2012) ("The United States has supported and subsidized homeownership for well over a century.").

230. Community Reinvestment Act of 1977, Pub. L. No. 95-128, 91 Stat. 1147 (codified as amended at 12 U.S.C. §§ 2901-2909 (2006)).

231. *Compare* Raymond H. Brescia, *The Cost of Inequality: Social Distance, Predatory Conduct, and the Financial Crisis*, 66 N.Y.U. ANN. SURV. AM. L. 641, 693-700 (2010) (concluding that the Community Reinvestment Act and government sponsored entities were not to blame for the crisis), *with* RAJAN, *supra* note 1, at 8-9 (arguing that politicians used easy credit policies to "mollify" the masses).

232. *See* Gustavo Gari, *Using Bazookas and Firewalls to Regulate Systematic Risk in the Financial Market: The Problems with Bailout and Bank Breakups and the Case for Network Interconnectivity*, 12 FLA. ST. U. BUS. REV. 155, 163 (2013).

233. *See* ALLISON, *supra* note 219, at 55.

234. *See* Gari, *supra* note 232, at 163.

235. Some have argued that although there are no explicit targets, "there are implied quotas for low-income minority loans (especially for African Americans." *See* ALLISON, *supra* note 219, at 55. He also claims that the Fair Housing Act (1968) and Equal Credit Opportunity Act (1979) were in practice "used to give banks incentives to make loans to low-income members of minority groups." *Id.*

based on their finding that "only 6% of high-cost loans—a proxy for subprime loans—had any connection to the law." [236] This is partially because the CRA only directly covers banking institutions, and not other mortgage originators such as credit unions.[237] Others have observed that because the crisis was primarily a result of defaults on mortgages originated between 2005 and 2007, any link for the CRA is attenuated given that there were no relevant substantive changes to the CRA after 1995.[238] The conclusion is bolstered by the finding that CRA-linked loans and similar loans that are unrelated to the CRA "perform comparably,"[239] although some have claimed that the default rates have been "extraordinarily high."[240]

The FCIC also concluded that with respect to the GSEs, their involvement was limited to following other lenders into the market rather than leading the charge.[241]

In his FCIC dissent, Peter Wallison claimed the "*sine qua non* of the financial crisis was U.S. government housing policy."[242] Wallison, among others, charged that it was U.S. government housing policy that encouraged home ownership among those with lower income.[243] This resulted in an overheated housing market and an increase in home ownership from the long-existing 64% in 1965 to nearly 70% by 2004.[244]

He notes that by 2007, half of U.S. mortgages (28 million) were subprime or weak, and of these, 74 percent "were on the books of government agencies or others subject to government requirements."[245] His report was dismissed as "a lonely, loony cri de coeur."[246]

Shifting ground somewhat, Allison argues that the legal responsibility to facilitate low-income home ownership became an ethical responsibility or duty,[247]

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236. FCIC REPORT, *supra* note 3, at xxvii; *see also* Neil Bhutta & Glenn B. Canner, *Community Dividend: Did the CRA Cause the Mortgage Market Meltdown?*, FED. RES. BANK OF MINNEAPOLIS (Mar. 1, 2009), *available at* phttp://www.minneapolisfed.org/publications_papers/ub_display.cfm?id=4136& (determining the 6% figure after carving out loans from lenders that were not regulated by the CRA and to borrowers who were no lower-income or in a CRA assessment area, and acknowledging possible inaccuracies in the figure).

237. *Id.*

238. *Id.*

239. *Id.*

240. ALLISON, *supra* note 219, at 56.

241. *See* FCIC REPORT, *supra* note 3, at xxvi.

242. *See id.* at 444 (Wallison, dissenting).

243. *See id.* (Wallison, dissenting).

244. *See id.* at 456 (Wallison, dissenting).

245. Wallison, *supra* note 114.

246. Joe Nocera, *Inquiry is Missing Bottom Line*, N.Y. TIMES, Jan. 28, 2011, http://www.nytimes.com/2011/01/29/business/29nocera.html?pagewanted=all, *archived at* http://perma.cc/E5V9-ETZG.

247. ALLISON, *supra* note 219, at 56.

and acknowledges the "ethical justification was more important."[248] It seems unlikely that this claim could be empirically proved (or disproved).

F. Repeal of Glass-Steagall

It is also worth mentioning one oft-cited cause that probably was not a cause at all: the repeal of the Glass-Steagall Act.[249] The Glass-Steagall Act, enacted in 1933 separated commercial banking from investment banking.[250] It was repealed by the Gramm-Leach-Bliley Act of 1999.[251] It is hard to see how this would be a plausible cause. Glass-Steagall never regulated the shadow-banking system, which is what caused the crisis.[252] Moreover, absent its repeal, JP Morgan would have been unable to buy Bear Stearns and the same for Bank of America's purchase of Merrill Lynch, which would have made the crisis far worse.[253] Glass-Steagall's repeal does, however, fit a narrative where rampant deregulation is the cause of the financial crisis.

CONCLUSION

There were plenty of necessary causes of the financial crisis, but no sufficient causes. With the benefit of hindsight, it is clear there were many parties who, had they acted differently, could have prevented the financial crisis, or at least mitigated its impact. Regulators failed to effectively regulate. The credit rating agencies used weak models, based on inadequate information, with an inherent conflict of interest. Buyers and sellers of securities did not adequately investigate the securities they were buying. Mortgage lenders and the support industry, such as appraisers, failed to behave ethically. And, of course, home buyers were perhaps too optimistic about their earnings prospects or the housing market, or

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248. *Id.* at 57.

249. *See, e.g.*, David Leonhardt, *Washington's Invisible Hand*, N.Y. TIMES, Sept. 26, 2008, http://www.nytimes.com/2008/09/28/magazine/28wwln-reconsider.html, *archived at* http://perma.cc/B5DS-A9M9 (noting that many cite the repeal of Glass-Steagall as a cause of the financial crisis, and that it is an easy scapegoat).

250. Banking Act of 1933 (Glass-Steagall Act), Pub. L. No. 73-66, 48 Stat. 162.

251. *See* Financial Services Modernization (Gramm-Leach-Bliley) Act of 1999, Pub. L. No. 106-102, § 101, 113 Stat. 1338, 1341 (1999) (repealing sections of the Glass-Steagall Act); Gari, *supra* note 232, at 161.

252. *See* Gari, *supra* note 232, at 163 ("Glass Steagall . . . firewalls could not stop the creation of a shadow banking system of derivatives, special purpose vehicles, and credit default swaps, all of which served the purpose of hedging and profiting from the risk of subprime loans").

253. *See* Andrew Ross Sorkin, *Reinstating an Old Rule Is Not a Cure for Crisis*, N.Y. TIMES DEAL BOOK (May 21, 2012), http://dealbook.nytimes.com/2012/05/21/reinstating-an-old-rule-is-not-a-cure-for-crisis/, *archived at* http://perma.cc/M7U3-RFZW.

sometimes just were misinformed or did not understand. The appropriate lesson is not a binary conflict between deregulation and regulation, but rather better and smarter regulation.[254] This also suggests that even though greed remains a fundamental aspect of human nature, an appropriate set of rules can greatly reduce, if not prevent, the chances of another such crisis.[255]

254. Ben S. Bernanke, *Monetary Policy and the Housing Bubble* (Jan. 3, 2010), http://www.federalreserve.gov/newsevents/speech/bernanke20100103a.htm, *archived at* http://perma.cc/ZQ5H-FTKK ("[T]he lesson I take from this experience is not that financial regulation and supervision are ineffective for controlling emerging risks, but that their execution must be better and smarter.").

255. As the FCIC noted "to pin this crisis on mortal flaws like greed and hubris would be simplistic. It was the failure to account for human weakness that is relevant to this crisis." FCIC REPORT, *supra* note 3, at xxii-xxiii.