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The Dark Side of Universal Banking: Financial Conglomerates and the Origins of the Subprime Financial Crisis

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The Dark Side of Universal Banking: Financial Conglomerates and the Origins of the Subprime Financial Crisis

ARTHUR E. WILMARTH, JR.

Since the subprime financial crisis began in mid-2007, banks and insurers around the world have reported \$1.1 trillion of losses. Seventeen large universal banks account for more than half of those losses, and nine of them either failed, were nationalized or were placed on government-funded life support. To prevent the collapse of global financial markets, central banks and governments in the U.S., U.K. and Europe have provided \$9 trillion of support to financial institutions.

Given the massive losses suffered by universal banks, and the extraordinary governmental assistance they have received, they are clearly the epicenter of the global financial crisis. They were also the main private-sector catalysts for the credit boom that precipitated the crisis. During the past two decades, governmental policies in the U.S., U.K. and Europe encouraged consolidation and conglomeration within the financial services industry. Domestic and international mergers among commercial and investment banks produced a leading group of seventeen large complex financial institutions (LCFIs). Those LCFIs dominated domestic and global markets for securities underwriting, syndicated lending, asset-backed securities (ABS), over-the-counter (OTC) derivatives, and collateralized debt obligations (CDOs).

Universal banks pursued an “originate to distribute” (OTD) strategy, which included (i) originating consumer and corporate loans, (ii) packaging loans into ABS and CDOs, (iii) creating OTC derivatives whose values were derived from loans, and (iv) distributing the resulting

securities and other financial instruments to investors. LCFIs used the OTD strategy to maximize their fee income, reduce their capital charges, and transfer to investors the risks associated with securitized loans.

Securitization enabled LCFIs to extend huge volumes of home mortgages and credit card loans to nonprime borrowers. By 2006, LCFIs turned the U.S. housing market into a system of “Ponzi finance,” in which borrowers kept taking out new loans to pay off old ones. When home prices fell in 2007, and nonprime homeowners could no longer refinance, defaults skyrocketed and the subprime financial crisis began.

Universal banks also followed reckless lending policies in the commercial real estate and corporate sectors. LCFIs included many of the same aggressive loan terms (including interest-only provisions and high loan-to-value ratios) in commercial mortgages and leveraged corporate loans that they included in nonprime home mortgages. In all three markets, LCFIs believed that they could (i) originate risky loans without screening borrowers and (ii) avoid post-loan monitoring of the borrowers’ behavior because the loans were transferred to investors. However, LCFIs retained residual risks under contractual and reputational commitments. Accordingly, when securitization markets collapsed in mid-2007, universal banks were exposed to significant losses.

Current regulatory policies—which rely on “market discipline” and LCFIs’ internal “risk models”—are plainly inadequate to control the proclivities in universal banks toward destructive conflicts of interest and excessive risk-taking. As shown by repeated government bailouts during the present crisis, universal banks receive enormous subsidies from their status as “too big to fail” (TBTF) institutions. Regulation of financial institutions and financial markets must be urgently reformed in order to eliminate (or greatly reduce) TBTF subsidies and establish effective control over LCFIs.

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The Dark Side of Universal Banking: Financial Conglomerates and the Origins of the Subprime Financial Crisis

ARTHUR E. WILMARTH, JR.*

*Remember this crisis began in regulated entities
This happened right under our noses.¹*

*God knows, some really stupid things were done by
American banks and by American investment banks To
policy makers, I say where were they? They approved all
these banksWe gave [consumers] weapons of mass
destruction to borrow too much”²*

I. INTRODUCTION

The global economy is currently experiencing the “most severe financial crisis since the Great Depression.”³ The ongoing crisis has battered global financial markets and has triggered a world-wide

* Professor of Law, George Washington University Law School, Washington, DC. I wish to thank Dean Fred Lawrence and the George Washington University Law School for a summer research grant that supported my work on this Article. I am most grateful for the excellent research assistance provided by my former students, Christopher Scott Pollock and Blake Reese, and also by Germaine Leahy, Head of Reference for the Jacob Burns Law Library. Finally, I greatly appreciate very helpful comments by, and conversations with, Larry Cunningham, Theresa Gabaldon, Anna Gelpern, Ann Graham, Patricia McCoy, Larry Mitchell, Heidi Schooner, and Michael Taylor about various topics discussed in this Article. Unless otherwise indicated, this Article includes developments through April 15, 2009.

¹ Jill Drew, *Frenzy*, WASH. POST, Dec. 16, 2008, at A1, available at LEXIS, News Library, WPOST File (quoting Paul S. Atkins, former member of the Securities and Exchange Commission).

² Edward Evans & Christine Harper, *Dimon Blames Banks, Regulators for Debt Problems*, BLOOMBERG.COM, Jan. 29, 2009, <http://www.bloomberg.com/apps/news?pid=20601208&sid=afYmYskaGvTk> (quoting remarks by Jamie Dimon, Chief Executive Officer of JP Morgan Chase, at the World Economic Forum in Davos, Switzerland).

³ Markus K. Brunnermeier, *Deciphering the Liquidity and Credit Crunch, 2007–08*, 23 J. ECON. PERSPECTIVES No. 1, 77, 77 (Winter 2009); see also Stijn Claessens et al., *What Happens during Recessions, Crunches and Busts?* (Dec. 1, 2008), available at <http://ssrn.com/abstract=1318825> (describing the current “financial turmoil” as “the most severe global financial crisis since the Great Depression”); Diana I. Gregg, *World Is in Recession in 2009 in Wake of Financial Sector Crisis*, 92 BANKING REP. (BNA) 48 (Jan. 6, 2009), available at LEXIS, News Library, BNABNK File (citing World Bank assessment that the current financial crisis is the “most serious since the 1930s”); Speech by Federal Reserve Board Chairman Ben S. Bernanke at the Council on Foreign Relations, Mar. 10, 2009, available at <http://www.federalreserve.gov/newsevents/speech/bernanke20090310a.htm> [hereinafter Bernanke CFR Speech] (acknowledging that “[t]he world is suffering through the worst financial crisis since the 1930s”).

recession.⁴ Global stock market values declined by \$35 trillion during 2008 and early 2009, and global economic output is expected to fall in 2009 for the first time since World War II.⁵

In the United States, where the crisis began, markets for stocks and homes have suffered their steepest downturns since the 1930s and have driven the domestic economy into a steep and prolonged recession.⁶ The total market value of publicly-traded U.S. stocks slumped by more than \$10 trillion from October 2007 through February 2009.⁷ In addition, the value of U.S. homes fell by an estimated \$6 trillion between mid-2006 and the end of 2008.⁸ U.S. gross domestic product declined sharply during the second half of 2008, and 4.4 million jobs were lost during 2008 and the first two months of 2009.⁹ In early 2009, the U.S. appeared to be “trapped in a vortex of plunging consumer demand, rising joblessness, and a deepening crisis in the banking system.”¹⁰

⁴ See, e.g., Anthony Faiola, *Downturn Accelerates as It Circles the Globe*, WASH. POST, Jan. 24, 2009, at A1, available at LEXIS, News Library, WPOST File (reporting that “the burst of the biggest credit bubble in history” had led to a weakening of “real economies around the world”); Gregg, *supra* note 3 (stating that the financial crisis “has left no country unaffected”); Joanna Slater, *Year-End Review of Markets & Finance 2008—Global Markets Are in for Another Tough Slog*, WALL ST. J., Jan. 2, 2009, at R4, available at LEXIS, News Library, WSJNL File (reporting that “global stock markets collapsed in 2008” as the value of publicly-traded stocks in markets outside the U.S. “fell by almost half”).

⁵ Shamim Adam, *Global Financial Assets Lost \$50 Trillion Last Year, ADB Says*, BLOOMBERG.COM, Mar. 9, 2009, <http://www.bloomberg.com/apps/news?pid=20601087&sid=aZ1kcJ7y3LDM&refer=worldwide>; Anthony Faiola, *U.S. Downturn Dragging World Into Recession*, WASH. POST, Mar. 9, 2009, at A01, available at LEXIS, News Library, WPOST File.

⁶ Conor Dougherty & Kelly Evans, *Economy in Worst Fall Since '82—Output Sank 6.2% Last Quarter*, WALL ST. J., Feb. 28, 2009, at A1, available at LEXIS, News Library, WSJNL File (reporting that U.S. gross domestic profit (GDP) recorded its “steepest [quarterly] dropoff since the depths of the 1982 recession”); Peter A. McKay, *Dow Falls 119.15 Points, Losing 12% in February*, WALL ST. J., Feb. 28, 2009, at B1, available at LEXIS, News Library, WSJNL File (reporting that the Dow Jones Industrial Average recorded its worst six-month decline since 1932 and had lost more than fifty percent of its value since October 2007); Adam Shell, *S&P Sinks Beyond November Low; Index's Bear Market Loss Expands to 52.5%*, USA TODAY, Feb. 24, 2009, at 1B, available at LEXIS, News Library, USATDY File (reporting that the S&P 500 index had lost 52.5% since its peak, “its biggest decline since the 1930s”).

⁷ Shell, *supra* note 6 (reporting that “since the October 2007 top, the [U.S.] stock market, as measured by the Dow Jones Wilshire 5000, has declined \$10.4 trillion in value”).

⁸ Dan Levy, *U.S. Property Owners Lost \$3.3 Trillion in Home Value*, BLOOMBERG.COM, Feb. 3, 2009, <http://www.bloomberg.com/apps/news?pid=20601087&refer=home&sid=aE29HSrxA4rI> (reporting an estimate by Zillow that “[a]bout \$6.1 trillion of value has been lost since the housing market peaked in the second quarter of 2006”); see also Timothy R. Homan, *U.S. Household Net Worth Had Record Decline in Fourth Quarter*, BLOOMBERG.COM, Mar. 13, 2009 (reporting that the net worth of U.S. households fell by \$12.8 trillion between September 30, 2007, and December 31, 2008, due to drops in the values of stocks and homes).

⁹ See Dougherty & Evans, *supra* note 6 (reporting that the “[U.S.] gross domestic product declined at a 6.2% annual rate in the fourth quarter of 2008”); Peter S. Goodman & Jack Healy, *Job Losses Hint at Vast Remaking of U.S. Economy*, N.Y. TIMES, Mar. 7, 2009, at A1, available at LEXIS, News Library, NYT File (reporting that the U.S. “unemployment rate surged to 8.1 percent [in February 2009] . . . its highest level in a quarter-century”).

¹⁰ Jeff Zeleny & Edmund L. Andrews, *With Grim Job Loss Figures, No Sign That Worst Is Over*, N.Y. TIMES, Feb. 7, 2009, at B1, available at LEXIS, News Library, NYT File; see also Goodman &

By March 2009, “the continuing collapse in financial markets around the globe reflected an absence of faith” in the ability of governments and regulators to deal with the financial crisis.¹¹ The turmoil in financial markets reflected deep concerns among investors about the viability of major financial institutions. Commercial and investment banks and insurance companies around the world reported more than \$1.1 trillion of losses between the outbreak of the financial crisis in mid-2007 and March 2009. In response to those losses, and to prevent the collapse of the global financial system, central banks and governments in the United States (U.S.), United Kingdom (U.K.) and Europe provided almost \$9 trillion of support in the form of emergency liquidity assistance, capital infusions, asset purchase programs, and financial guarantees. U.S. federal agencies extended about half of that support. Nevertheless, the ability of global financial markets to recover from the present crisis remained in serious doubt in April 2009.¹²

Seventeen large universal banks accounted for more than half of the \$1.1 trillion of losses reported by the world’s banks and insurance companies. Twelve of those universal banks suffered serious damage, including (i) six institutions that failed or were nationalized to prevent their failure, and (ii) three other institutions that were placed on government-funded life support.¹³ In view of the huge losses suffered by these institutions, and the extraordinary governmental assistance they received, they are clearly the epicenter of the global financial crisis. This Article argues that they were also the principal private-sector catalysts for the enormous credit boom that led to the crisis.

Part II of this Article describes the growth of large universal banks and

Healy, *supra* note 9 (quoting economist Robert Barbera’s description of “the violent downward trajectory” in the U.S. economy).

¹¹ Neil Irwin, *In Free-Fall, Stocks Hit Lowest Mark Since '97*, WASH. POST, Mar. 3, 2009, at A1, available at LEXIS, News Library, WPOST File; see also Michael Lewis & David Einhorn, *The End of the Financial World As We Know It*, N.Y. TIMES, Jan. 4, 2009, WK 9, available at LEXIS, News Library, NYT File (stating that “the collapse of [the U.S.] financial system . . . inspired not merely a national but a global crisis of confidence”).

¹² See *infra* Part III.C.; see also Timothy R. Homan, *IMF Says Global Losses From Credit Crisis May Hit \$4.1 Trillion*, BLOOMBERG.COM, Apr. 21, 2009 (stating that, according to a report issued by the International Monetary Fund, (i) “[w]orldwide losses tied to rotten loans and securitized assets may reach \$4.1 trillion by the end of 2010 as the recession and credit crisis exact a higher toll on financial institutions,” and (ii) “[co]nfidence in the international financial system remains fractured and systemic risks elevated”); Liz Rappaport & Serena Ng, *New Fears As Credit Markets Tighten*, WALL ST. J., Mar. 9, 2009, at A1 (quoting a prominent financial executive’s comment that “[t]here’s fear out there that’s driving down every asset class simultaneously. It illustrates a lack of investor confidence in the government’s plan for fixing the financial infrastructure”).

¹³ See *infra* notes 421–30 and accompanying text. As used in this Article, the term “universal bank” refers to an organization that has authority to engage, either directly or through affiliates, in the banking, securities and insurance businesses. Arthur E. Wilmarth, Jr., *The Transformation of the U.S. Financial Services Industry, 1975–2000: Competition, Consolidation, and Increased Risks*, 2002 U. ILL. L. REV. 215, 223 n.23. In addition, unless otherwise indicated, the term “universal bank” is used interchangeably with “financial conglomerate” and “large complex financial institution” (LCFI).

their success in establishing leadership positions in many sectors of the financial markets. During the past two decades, as explained in Parts II.A. and II.B., governmental policies in the U.S., U.K. and Europe encouraged massive consolidation and conglomeration within the financial services industry. The Gramm-Leach-Bliley Act of 1999 was a prominent domestic example of an international regulatory trend in favor of universal banking. Domestic and international mergers among commercial and investment banks produced a dominant group of large complex financial institutions (LCFIs). By 2007, as discussed in Part II.C., seventeen LCFIs effectively controlled domestic and global markets for debt and equity underwriting, syndicated lending, asset-backed securities (ABS), over-the-counter (OTC) derivatives, and collateralized debt obligations (CDOs).

As explained in Part II.D.1., universal banks pursued an “originate-to-distribute” (OTD) strategy. The OTD business model included (i) originating and servicing consumer and corporate loans, (ii) packaging those loans into ABS and CDOs, (iii) creating additional financial instruments, including synthetic CDOs and credit default swaps (CDS), whose values were derived in complicated ways from the underlying loans, and (iv) distributing the foregoing securities and financial instruments to investors. LCFIs used the OTD strategy to maximize their fee income, reduce their capital charges, and transfer to investors (at least ostensibly) the risks associated with securitized loans and other structured-finance products.

Even before the subprime lending boom began in 2003, some observers began to raise questions about the risks posed by the new universal banks. As described in Part II.D.2., LCFIs played key roles in promoting the dotcom-telecom boom in the U.S. stock market between 1994 and 2000, which was followed by a devastating bust from 2000 to 2002. Many leading universal banks were also involved in a series of scandals involving Enron, WorldCom, investment analysts, initial public offerings, and mutual funds during the same period. Nevertheless, Congress did not seriously consider the question of whether financial conglomerates threatened the stability of the financial markets and the general economy. Political leaders assumed that federal regulators and market discipline would exercise sufficient control over the growing power of universal banks.

As explained in Part III.A., the U.S. (like the U.K. and some European nations) experienced an enormous credit boom between 1991 and 2007. Within the domestic nongovernmental sector, household debts rose by \$10 trillion (to \$13.8 trillion), nonfinancial business debts grew by \$6.4 trillion (to \$10.1 trillion), and financial sector debts increased by \$13 trillion (to \$15.8 trillion). The credit boom accelerated at a particularly rapid rate after 2000, and the financial services industry captured an unprecedented share of corporate profits and gross domestic profit. Governmental

policies (including an overly expansive U.S. monetary policy and currency exchange rate policies pursued by foreign governments) were important factors that encouraged credit growth.

In addition, as discussed in Part III.B., universal banks were the leading private-sector catalysts for the credit boom. During the past two decades, and particularly after 2000, LCFIs used mass-marketing programs, automated loan processing, and securitization to extend huge volumes of high-risk home mortgage loans and credit card loans to nonprime borrowers. Federal laws facilitated the creation of nationwide lending programs by LCFIs, because federal laws preempted state usury laws and state consumer protection laws. Unfortunately, Congress and federal regulators did not establish adequate federal safeguards to protect consumers against abusive lending practices by federally chartered depository institutions and their subsidiaries and agents.

As described in Part III.B.3., LCFIs played leading roles as direct lenders, warehouse lenders and securitizers for nonprime home mortgages. The volume of nonprime mortgages rose from \$250 billion in 2001 to \$1 trillion in 2006. Nearly 10 million nonprime mortgages were originated between 2003 and mid-2007. LCFIs used securitization to spur this dramatic growth in nonprime lending. By 2006, LCFIs packaged four-fifths of subprime mortgages and nine-tenths of “Alt-A” mortgages into residential mortgage-backed securities (RMBS). As the securitized share of nonprime lending increased, lending standards deteriorated. LCFIs increasingly offered subprime mortgages with low payments (based on introductory “teaser” rates) for two or three years, followed by a rapid escalation of interest rates and payments. As a practical matter, borrowers who accepted such loans were forced to refinance before their “teaser” periods expired, and they could do so only as long as home prices kept rising. By 2006, LCFIs had turned the U.S. housing market into a system of “Ponzi finance,” in which nonprime borrowers had to keep taking out new loans to pay off their old ones. When home prices stopped rising in 2006 and collapsed in 2007, nonprime borrowers could not refinance, defaults skyrocketed, and the subprime financial crisis began.

Financial conglomerates aggravated the risks of nonprime mortgages by creating multiple financial bets based on those mortgages. LCFIs re-securitized lower-rated tranches of RMBS to create CDOs, and then re-securitized lower-rated tranches of CDOs to create CDOs-squared. LCFIs also created synthetic CDOs and wrote CDS to create additional financial bets based on nonprime mortgages. By 2007, the total volume of financial instruments derived from nonprime mortgages was at least twice as large as the \$2 trillion in outstanding nonprime mortgages. LCFIs created the impression that they were transferring the risks of their lending and securitization activities to far-flung investors. In fact, however, LCFIs retained significant exposures to nonprime mortgages because (i) LCFIs

kept RMBS and CDOs in their “warehouses,” and (ii) LCFIs transferred RMBS and CDOs to off-balance-sheet conduits that relied on the sponsoring LCFIs for explicit or implicit support. Thus, in important respects, LCFIs pursued an “originate to *not really* distribute” strategy, due to their overwhelming desire to complete more transactions and earn more fees.

Universal banks created similar risks with their credit card operations. While the housing boom lasted, universal banks expanded credit card lending to nonprime borrowers and encouraged those borrowers to use home equity loans to pay off their credit card balances. As in the case of nonprime home mortgages, LCFIs ignored the risks of nonprime credit card loans because they could securitize most of the loans. However, the securitization market for credit card loans shut down in 2008, just as it had done for subprime mortgages in 2007.

As discussed in Part III.B.4., universal banks followed similarly reckless lending policies in the commercial real estate and corporate sectors. LCFIs used securitization techniques to promote a dramatic increase in commercial mortgage lending and leveraged corporate lending between 2003 and mid-2007. LCFIs used many of the same aggressive loan terms (including interest-only provisions and high loan-to-value ratios) for commercial mortgages and leveraged corporate loans that they used for nonprime home mortgages. In both markets, as with home mortgages, securitization created perverse incentives for lenders and ABS underwriters. Lenders and ABS underwriters (which often were affiliated subsidiaries of LCFIs) believed that they could (i) originate risky loans without properly screening borrowers and (ii) avoid costly post-loan monitoring of the borrowers’ behavior because, in each case, the loans were transferred to investors. Again, however, LCFIs often retained residual risk exposures. This was particularly true in the market for leveraged buyouts, because LCFIs frequently agreed to provide “bridge” financing if there were not enough investors to complete the transactions. Once again, the ability of LCFIs to control their risks was undercut by their single-minded focus on maximizing transactions and fees. Accordingly, when the securitization markets for commercial mortgages and leveraged corporate loans collapsed in mid-2007, universal banks were exposed to significant losses.

As discussed in Parts III.C. and IV, the massive losses suffered by LCFIs, and the extraordinary governmental assistance they have received, demonstrate that they bear primary responsibility for the credit boom and the global financial crisis. Current regulatory policies—which rely heavily on “market discipline” and LCFIs’ internal “risk models”—are plainly inadequate to control the strong tendencies in universal banks toward destructive conflicts of interest and excessive risk-taking. Moreover, repeated government bailouts during the present crisis confirm that

universal banks receive enormous subsidies from their status as “too big to fail” (TBTF) institutions. Regulation of financial institutions and financial markets must be urgently reformed in order to eliminate (or greatly reduce) TBTF subsidies and establish effective control over LCFIs.

II. CONSOLIDATION AND CONVERGENCE AMONG FINANCIAL CONGLOMERATES INTENSIFIED RISKS IN DOMESTIC AND GLOBAL FINANCIAL MARKETS AFTER 1990

A. *The Re-Entry of Commercial Banks into Securities Markets*

The Banking Act of 1933 (popularly known as the “Glass-Steagall Act”) built a legal firewall that separated commercial banks from the securities industry.¹⁴ During the 1980s and 1990s, federal regulators opened loopholes in the Glass-Steagall wall in response to growing competitive pressures in the financial marketplace.¹⁵ In 1987 and 1989, the Federal Reserve Board (FRB) allowed bank holding companies to underwrite debt and equity securities to a limited extent by establishing “Section 20 subsidiaries.” During the 1990s, the FRB progressively relaxed its restrictions on Section 20 subsidiaries. By 1997, those subsidiaries could compete effectively with securities firms for underwriting mandates.¹⁶

In response to the FRB’s orders, many large domestic and foreign banks established Section 20 subsidiaries, often by acquiring small and midsized securities firms. By mid-1998, Section 20 subsidiaries were owned by more than forty-five banking organizations, including all of the twenty-five largest U.S. banks.¹⁷

In 1998, the FRB took a more dramatic step by allowing Citicorp, the largest U.S. bank holding company, to merge with Travelers, a major financial conglomerate that owned a leading securities firm, Salomon Smith Barney, as well as subsidiaries engaged in a full range of insurance activities. That merger produced Citigroup, the first U.S. universal bank since 1933.¹⁸ Neither the Glass-Steagall Act nor the Bank Holding Company Act (BHC Act)¹⁹ allowed a financial conglomerate like

¹⁴ MELANIE L. FEIN, *SECURITIES ACTIVITIES OF BANKS* §§ 1.02, 4.01, 4.02 (3d ed. Supp. 2008); PATRICIA A. MCCOY, *BANKING LAW MANUAL* §§ 7.01, 7.02[1], 7.02[2] (2d ed. 2009); Wilmarth, *supra* note 13, at 318.

¹⁵ FEIN, *supra* note 14, §§ 1.03–1.05, 4.02–4.03; MCCOY, *supra* note 14, §§ 7.02–7.03.

¹⁶ FEIN, *supra* note 14, § 1.04; MCCOY, *supra* note 14, § 7.04[2][a][ii]; Rajesh P. Narayanan, Nanda K. Rangan & Sridhar Sundaram, *Welfare Effects of Expanding Banking Organization Opportunities in the Securities Arena*, 42 Q. REV. ECON. & FIN. 505, 506–13, 525 n.12 (2002); Wilmarth, *supra* note 13, at 318–20.

¹⁷ Wilmarth, *supra* note 13, at 319; *see also* FEIN, *supra* note 14, § 1.08[A] (listing major bank acquisitions of securities firms from 1983 through 2004).

¹⁸ FEIN, *supra* note 14, § 1.08[B]; Wilmarth, *supra* note 13, at 220–21, 306.

¹⁹ Bank Holding Company Act of 1956, Pub. L. No. 511, 70 Stat. 133.

Citigroup to exist on a permanent basis. However, based on an exemption in the BHC Act, the FRB allowed Citigroup to offer securities and insurance services beyond the scope of the BHC Act for up to five years.²⁰ The FRB's approval of the Citigroup merger placed great pressure on Congress to repeal the Glass-Steagall Act and to amend the BHC Act. As a practical matter, the FRB's action confronted Congress with "the choice of either approving legislation to ratify the Citicorp-Travelers merger or forcing a potentially disruptive breakup of a huge financial conglomerate."²¹

In November 1999, Congress enacted the Gramm-Leach-Bliley Act (GLBA), which ratified the Citigroup merger and authorized universal banking. GLBA repealed the anti-affiliation provisions of Glass-Steagall and also amended the BHC Act so that commercial banks could affiliate with securities firms and insurance companies within a financial holding company structure.²²

GLBA's supporters argued that the statute's authorization of financial holding companies would produce significant benefits for the U.S. financial services industry and the broader economy. The predicted benefits included (i) enabling financial holding companies to earn higher profits based on favorable economies of scale and scope, (ii) allowing financial holding companies to achieve greater safety by diversifying their activities, (iii) permitting financial holding companies to offer "one-stop shopping" for financial services, resulting in increased convenience and lower costs for businesses and consumers, and (iv) enhancing the ability of U.S. financial institutions to compete with foreign universal banks.²³

GLBA's advocates contended that the potential benefits of universal banking far outweighed concerns about conflicts of interest or higher risks

²⁰ FEIN, *supra* note 14, § 1.08[B]; Wilmarth, *supra* note 13, at 220–21, 306–07. The FRB's decision granting a temporary exemption to Citigroup was upheld in *Indep. Comm. Bankers of Am. v. Bd. of Governors*, 195 F.3d 28 (D.C. Cir. 1999).

²¹ Wilmarth, *supra* note 13, at 220–21, 306–07; *see also* Edward J. Kane, *Implications of Superhero Metaphors for the Issue of Banking Powers*, 23 J. BANKING & FIN. 663, 666 (1999) (stating that Citigroup's leaders "boldly gambled that they [could] drag on Congress . . . into legalizing their transformation" before the FRB's exemption period expired); Dean Anason, *Advocates, Skeptics Face Off on Megadeals*, AM. BANKER, Apr. 30, 1998, available at LEXIS, News Library, AMBNKR File (reporting that Citigroup's formation "was widely seen as a bid to push lawmakers to enact a sweeping overhaul of financial laws," and quoting Rep. Maurice D. Hinchey's comment that Citigroup was "essentially playing an expensive game of chicken with Congress").

²² RICHARD SCOTT CARNELL, JONATHAN R. MACEY & GEOFFREY P. MILLER, *THE LAW OF BANKING & FINANCIAL INSTITUTIONS* 27–29, 465–70 (4th ed. 2009); MCCOY, *supra* note 14, §§ 4.03[3], 7.04[2][b], 7.05; Wilmarth, *supra* note 13, at 219–22, 319–20.

²³ *See, e.g.*, S. REP. NO. 106-44, at 4–6 (1999); 145 CONG. REC. S13783–84 (daily ed. Nov. 3, 1999) (remarks of Sen. Gramm); 145 CONG. REC. S13880–81 (daily ed. Nov. 4, 1999) (remarks of Sen. Schumer); 145 CONG. REC. S13909 (daily ed. Nov. 4, 1999) (remarks of Sen. Domenici); 145 CONG. REC. H11527–28 (daily ed. Nov. 4, 1999) (remarks of Rep. Leach); James R. Barth et al., *Policy Watch: The Repeal of Glass-Steagall and the Advent of Broad Banking*, 14 J. ECON. PERSP. 191, 198–203 (2000); João A.C. Santos, *Commercial Banks in the Securities Business: A Review*, 14 J. FIN. SERV. RES. 35, 37–41 (1998).

within financial conglomerates, and that those concerns were adequately addressed by the statute.²⁴ In contrast, opponents of GLBA argued that the new universal banks permitted by GLBA were likely to generate financial risks and speculative excesses similar to those that occurred during the 1920s. Opponents warned that a removal of Glass-Steagall's constraints might ultimately cause a financial crisis similar in magnitude to the Great Depression.²⁵

As GLBA's opponents pointed out, the Glass-Steagall Act was premised on Congress' judgment that universal banking had played a major role in triggering the Great Depression. The proponents of Glass-Steagall concluded that (i) the aggressive entry by commercial banks into the securities markets during the 1920s encouraged a reckless underwriting of risky loans and speculative securities by banks and securities firms; and (ii) the huge expansion of credit produced by such loans and securities promoted an unsustainable economic boom, followed by a devastating bust that crippled banks, ruined the economy, and inflicted heavy losses on unsophisticated and ill-informed investors.²⁶ Based on those conclusions, Congress decided to separate commercial and investment banking by enacting the Glass-Steagall Act.²⁷

GLBA's supporters, however, dismissed the relevance of Glass-

²⁴ See, e.g., 145 CONG. REC. S13783–84 (daily ed. Nov. 3, 1999) (remarks of Sen. Gramm); *id.* at S13877 (daily ed. Nov. 4, 1999) (remarks of Sen. Allard); *id.* at S13880–81 (remarks of Sen. Schumer); 145 CONG. REC. H11515 (remarks of Rep. Roukema); 145 CONG. REC. H11527–28 (remarks of Rep. Leach); Barth et al., *supra* note 23, at 199–200.

²⁵ See, e.g., 145 CONG. REC. S13871–74 (daily ed. Nov. 4, 1999) (remarks of Sen. Wellstone); 145 CONG. REC. S13896–97 (remarks of Sen. Dorgan); 145 CONG. REC. H11530–31, H11542 (daily ed. Nov. 4, 1999) (remarks of Rep. Dingell).

²⁶ See, e.g., S. REP. NO. 73-77, at 3–4, 6–10 (1933) (criticizing the “very great inflation of bank credit,” which resulted in “excessive speculation” in stocks and “real-estate inflation and speculation”); 77 CONG. REC. 3835 (1933) (remarks of Rep. Steagall, declaring that “[o]ur great banking system was diverted from its original purposes into investment activities, and its service devoted to speculation and international high finance”); 77 CONG. REC. 3726 (remarks of Sen. Glass, asserting that securities affiliates of banks “were the most unscrupulous contributors, next to the debauch of the New York Stock Exchange, to the financial catastrophe which visited this country and was mainly responsible for the depression under which we have been suffering since”). For contemporary and modern assessments of the impact of the credit boom of the 1920s in leading to the Great Depression and the Glass-Steagall Act, see, for example, LIONEL ROBBINS, *THE GREAT DEPRESSION* 30–72 (1934); H. PARKER WILLIS & JOHN M. CHAPMAN, *THE BANKING SITUATION: AMERICAN POST-WAR PROBLEMS AND DEVELOPMENTS* 97–118, 535–633 (1934); Charles E. Persons, *Credit Expansion, 1920 to 1929 and Its Lessons*, 45 Q. J. ECON. 94 *passim* (1930); Barry Eichengreen & Kris Mitchener, *The Great Depression as a Credit Boom Gone Wrong* (Bank for Int'l Settlements, Working Paper No. 137, 2003), available at <http://ssrn.com/abstract=959644>; Arthur E. Wilmarth, Jr., *Did Universal Banks Play a Significant Role in the U.S. Economy's Boom-and-Bust Cycle of 1921–33? A Preliminary Assessment*, 4 CURRENT DEV. MONETARY AND FIN. L. 559, 564–85 (Geo. Wash. U. L. Sch., Pub. L. & Legal Theory, Working Paper No. 171, 2005), available at <http://ssrn.com/abstract=838267> [hereinafter Wilmarth, *Universal Banks*]; Arthur E. Wilmarth Jr., *Wal-Mart and the Separation of Banking and Commerce*, 39 CONN. L. REV. 1539, 1559–66 (2007) [hereinafter Wilmarth, *Banking and Commerce*].

²⁷ See, e.g., S. REP. NO. 73–77 (1933); *supra* note 26, at 9–10, 16, 18; 77 CONG. REC. 3835 (1933) (remarks of Rep. Steagall); 77 CONG. REC. 3725–26 (1933) (remarks of Sen. Glass); 77 CONG. REC. 4179–80 (1933) (remarks of Sen. Bulkley and Sen. Glass).

Steagall's historical background.²⁸ Some of GLBA's advocates argued that the Glass-Steagall Act was a mistake from the outset.²⁹ Others contended that, even if the 1933 legislation originally served a beneficial purpose, it had become obsolete and counterproductive due to rapid changes in the financial marketplace and the competitive challenges posed by foreign universal banks.³⁰ GLBA's supporters firmly believed that it was time to establish a new regime of universal banking in the U.S.

B. Consolidation in the Banking and Securities Industries

The re-entry of banks into the securities business after 1990 was accompanied by extensive consolidation within and across both industry sectors. During the 1980s and 1990s, the states and the federal government enacted laws that removed legal barriers to intrastate and interstate bank mergers and bank branching. Those laws encouraged a dramatic consolidation within the banking industry.³¹ More than 5,400 mergers took place in the U.S. banking industry from 1990 to 2005, involving more than \$5.0 trillion in banking assets.³² In seventy-four of those mergers, both the acquiring bank and the target bank had assets exceeding \$10 billion.³³

As a consequence of the bank merger wave, the share of U.S. banking assets held by the ten largest banks more than doubled, rising from twenty-

²⁸ See, e.g., H.R. REP. NO. 106-74 (pt. 1), at 6-7 (1999); S. REP. NO. 106-44, at 3-4 (1999); 145 CONG. REC. S13876 (daily ed. Nov. 4, 1999) (remarks of Sen. Hagel); *id.* at S13880 (remarks of Sen. Schumer); *id.* at S13906-07 (remarks of Sen. Mack); *id.* at S13907 (remarks of Sen. Lieberman); *id.* at S13912-13 (remarks of Sen. Gramm); *id.* at H11532-33 (remarks of Rep. Bliley).

²⁹ For example, Senator Phil Gramm, the chief Senate sponsor of GLBA, denounced the Glass-Steagall Act as a misguided statute from the outset. In his view, Congress was frightened by the Depression and was driven by populist "demagoguery" to impose a "punitive" and "artificial separation of the financial sector of our economy." 145 CONG. REC. S13913 (daily ed. Nov. 4, 1999). Similarly, Senator Joe Lieberman argued that the Glass-Steagall Act created "inefficiencies and unnecessary barriers in our economy." *Id.* at S13907; see also *id.* at S13876 (remarks of Sen. Hagel, criticizing the "artificial barriers" created by Glass-Steagall); *id.* at H11514 (remarks of Rep. Dreier, applauding GLBA for "tak[ing] us beyond . . . the curse of Glass-Steagall").

³⁰ See *id.* at S13886 (remarks of Sen. Dodd); *id.* at S13890 (remarks of Sen. Bryan); *id.* at S13895 (remarks of Sen. Leahy).

³¹ Astrid A. Dick, *Nationwide Branching and Its Impact on Market Structure, Quality, and Bank Performance*, 79 J. BUS. 567, 570 (2006); Arthur E. Wilmarth, Jr., *Too Good to Be True? The Unfulfilled Promises Behind Big Bank Mergers*, 2 STAN. J. L. BUS. & FIN. 1, 11 (1995). Federal banking agencies also encouraged consolidation by liberalizing their bank merger policies. Gerald A. Hanweck & Bernard Shull, *The Bank Merger Movement: Efficiency, Stability and Competitive Policy Concerns*, 44 ANTITRUST BULL. 251, 257-58 (1999); Wilmarth, *supra*, at 71.

³² Kenneth D. Jones & Robert Oshinsky, *The Effect of Industry Consolidation and Deposit Insurance Reform on the Resiliency of the U.S. Bank Insurance Fund*, 5 J. FIN. STABILITY 57, 58 (2009).

³³ *Id.* Five additional mega-mergers occurred in the U.S. banking industry in 2006. See *Top Bank and Thrift Deals Completed in 2006*, AM. BANKER, Feb. 13, 2007, at 12A, available at LEXIS, News Library, AMBNKR File (listing five mergers in which the acquiring and target banks each held assets of more than \$10 billion).

five percent in 1990 to fifty-five percent in 2005.³⁴ The three largest U.S. banks—Citigroup, Bank of America (BoFA) and JP Morgan Chase (Chase)—expanded rapidly after 1990, and each bank held more than \$1.5 trillion of assets at the end of 2007. Wachovia, the fourth largest U.S. bank, also grew rapidly, and its assets exceeded \$780 billion at the end of 2007.³⁵

Extensive consolidation also occurred in European banking markets after 1990. Nearly 1,800 bank mergers took place in the Euro zone and the United Kingdom (U.K.) from 1990 to 2001.³⁶ An additional 350 bank mergers were completed in the European Union (EU) from 2002 to 2006.³⁷ As in the United States, a number of very large bank mergers were completed in the U.K. and Europe, including three mergers from 1992 to 1999 among leading U.K. banks (HSBC-Midland, Lloyds-TSB and Royal Bank of Scotland-National Westminster) and two combinations among four of the largest French banks (BNP-Paribas and Credit Agricole-Credit Lyonnais); a merger between two major Swiss banks, which produced UBS; and the 2007 acquisition of ABN AMRO, the largest Dutch bank, by a group of three European banks led by Royal Bank of Scotland (RBS).³⁸

In addition to the consolidation that took place among commercial banks, large banks also acquired securities firms. Following the deregulation of the U.K. securities industry as part of London's "Big Bang" of 1986, U.S. and European banks aggressively entered U.K.

³⁴ Jones & Oshinsky, *supra* note 32, at 58. Similarly, the share of domestic deposits held by the ten largest U.S. banks rose from seventeen percent in 1990 to forty-five percent in 2005. *Id.*

³⁵ Kenneth D. Jones & Chau Nguyen, *Increased Concentration in Banking: Megabanks and Their Implications for Deposit Insurance*, in 14 FIN. MARKETS, INSTITUTIONS & INSTRUMENTS NO. 1, 1, at 3–8 (Feb. 2005) (describing rapid growth among the largest banks from 1990 to 2003). Compare *Market Monitor: Bank and Thrift Holding Companies with the Most Assets*, AM. BANKER, Apr. 15, 2008, at 8, with *Ranking the Banks: Bank and Thrift Holding Companies with the Most Assets*, AM. BANKER, June 15, 2007, at 11 (showing that (i) Citigroup held \$2.2 trillion of assets at the end of 2007, compared to \$1.1 trillion at the end of 2002; (ii) Bank of America held \$1.7 trillion of assets at in 2007, up from \$660 billion in 2002; (iii) JP Morgan Chase held \$1.6 trillion of assets in 2007, compared to \$760 billion in 2002; and (iv) Wachovia held \$780 billion in assets in 2007, up from \$340 billion in 2002).

³⁶ Dean Amel et al., *Consolidation and Efficiency in the Financial Sector: A Review of the International Evidence*, 28 J. BANKING & FIN. 2493, 2495 tbl.1 (2004) (showing 1355 bank mergers in the Euro zone and 419 bank mergers in the U.K. from 1990 to 2001).

³⁷ See EUROPEAN CENTRAL BANK, EU BANKING STRUCTURES 13 chart 3 (2007) (listing "domestic" and "cross-border" bank mergers occurring within the EU between 2002 through 2006), available at <http://www.ecb.int/pub/pdf/other/eubankingstructures2007en.pdf>.

³⁸ Patrick Beitel & Dirk Schiereck, *Value Creation at the Ongoing Consolidation of the European Banking Market* 40–41 app. 3 (Instit. Mergers & Acquisitions, Working Paper No. 05/01, 2001), available at http://ssrn.com/sol3/papers.cfm?abstract_id=302645; John Tagliabue, *2 Big Banks in France Join Forces*, N.Y. TIMES, Dec. 17, 2002, at W1, available at LEXIS, News Library, NYT File; John Tagliabue, *2 of the Big 3 Swiss Banks to Join to Seek Global Heft*, N.Y. TIMES, Dec. 9, 1997, at D8, available at LEXIS, News Library, NYT File; Jason Singer & Carrick Mollenkamp, *M&A Milestone: \$101 Billion Deal for ABN Amro*, WALL ST. J., Oct. 5, 2007, at A1, available at LEXIS, News Library, WSJNL File.

financial markets and acquired most of Britain's top investment banks.³⁹ Similarly, as noted above, U.S. and European banks took advantage of the progressive dismantling of the Glass-Steagall Act by acquiring dozens of U.S. securities firms.⁴⁰ For example, Chase acquired several small investment banks and subsequently merged with J.P. Morgan, which was the commercial bank with the strongest ties to Wall Street.⁴¹ Three large European banks also established major positions in the U.S. securities markets by acquiring Wall Street firms. Credit Suisse acquired First Boston and Donaldson, Lufkin & Jenrette, while Deutsche Bank acquired Bankers Trust (not long after Bankers Trust had absorbed Alex. Brown), and UBS purchased PaineWebber.⁴²

In response to the growing competitive threat posed by commercial banks, large securities firms made their own acquisitions. Smith Barney, the securities subsidiary of Travelers, acquired Shearson in 1993 and Salomon Brothers in 1997. The resulting firm, Salomon Smith Barney (SSB), became part of Citigroup when Travelers merged with Citicorp in 1998.⁴³ Morgan Stanley greatly increased in size by combining with Dean Witter in 1997.⁴⁴

Wall Street firms also secured bank-like powers by acquiring depository institutions insured by the Federal Deposit Insurance Corporation (FDIC). Securities firms purchased industrial loan companies (ILCs) and thrift institutions by taking advantage of loopholes in the statutes governing bank and thrift holding companies.⁴⁵ For example, Merrill Lynch (Merrill) acquired a thrift institution and an industrial loan company during the 1990s. "By 2006, Merrill's [subsidiary depository institutions] held \$80 billion of deposits, and Merrill used those deposits to fund \$70 billion of commercial and consumer loans."⁴⁶ Similarly, Morgan

³⁹ Wilmarth, *supra* note 13, at 325 & n.449 (discussing entry by U.S. banks into London's financial markets after the "Big Bang"); *Investment Banking: Culture Club*, ECONOMIST, July 1, 1995, at 66, available at LEXIS, News Library, ECON File (discussing Deutsche Bank's acquisition of Morgan Grenfell, Dresdner Bank's acquisition of Kleinwort Benson, and Swiss Bank's acquisition of S.G. Warburg).

⁴⁰ See *supra* note 17 and accompanying text.

⁴¹ Roy C. Smith, *Strategic Directions in Investment Banking—A Retrospective Analysis*, 14 J. APPLIED CORP. FIN. 111, 116 (2001); Steven Lipin et al., *Blending Legends: Chase Agrees to Buy J.P. Morgan & Co. In a Historic Linkup*, WALL ST. J., Sept. 13, 2000, at A1, available at LEXIS, News Library, WSJNL File.

⁴² RICHARD BOOKSTABER, *A DEMON OF OUR OWN DESIGN: MARKETS, HEDGE FUNDS, AND THE PERILS OF FINANCIAL INNOVATION* 75 (2007); Wilmarth, *supra* note 13, at 323, 376–77.

⁴³ BOOKSTABER, *supra* note 42, at 75, 125–26; Smith, *supra* note 41, at 116; Gary Weiss et al., *Sandy's Triumph*, BUS. WK., Oct. 6, 1997, at 34, available at LEXIS, News Library, File BUSWK.

⁴⁴ Smith, *supra* note 41, at 118; Peter Truell, *Giant Wall Street Merger: The Deal: Morgan Stanley and Dean Witter Agree to Merge*, N.Y. TIMES, Feb. 6, 1997, at A1, available at LEXIS, News Library, NYT File.

⁴⁵ Wilmarth, *Banking and Commerce*, *supra* note 26, at 1569–73, 1584–85, 1590–91; Wilmarth, *supra* note 13, at 423–24.

⁴⁶ Wilmarth, *Banking and Commerce*, *supra* note 26, at 1591; see also Matthias Rieker, *Merrill's Retail Banking Strategy Seen Paying Off*, AM. BANKER, June 12, 2003, at 20, available at LEXIS,

Stanley and Lehman Brothers (Lehman) purchased thrifts and ILCs, and Goldman Sachs (Goldman) acquired an ILC.⁴⁷ At the end of 2006, Morgan Stanley controlled over \$45 billion of deposits, while Lehman held over \$20 billion in deposits and Goldman held more than \$10 billion of deposits.⁴⁸

By acquiring ILCs and thrift institutions, large securities firms gained the ability to offer FDIC-insured deposits, to make commercial and consumer loans, and to engage in other traditional banking activities (including trust services). Securities firms viewed FDIC-insured deposits as essential competitive weapons because those deposits provided a low-cost, subsidized source of funding for their lending and investment activities. By 2006, the four largest securities firms—Merrill, Morgan Stanley, Goldman and Lehman (hereinafter the “big four”)—had become de facto universal banks.⁴⁹

In order to increase their deposit insurance subsidy, financial conglomerates established sweep account programs that moved cash balances from customer accounts at their broker-dealer subsidiaries into FDIC-insured deposit accounts at their depository institution subsidiaries. “A 2004 study estimated that sweep account programs created \$350 billion of FDIC-insured deposits that otherwise would have been held in uninsured money-market mutual funds (MMMFs) at brokerage firms.”⁵⁰ FDIC-insured deposits pay interest rates that are typically much lower, and earn spreads that are substantially greater, than the rates and spreads applicable to MMMFs.⁵¹ FDIC-insured deposits pay comparatively low interest rates because they are protected against loss by the FDIC’s deposit

News Library, File AMBNKR (reporting that Merrill Lynch relied on FDIC-insured bank deposits to provide fifty-one percent of its funding in 2003, compared with fourteen percent in 1998).

⁴⁷ See *Bank and Thrift Holding Companies with the Most Deposits*, AM. BANKER, June 18, 2007, at 12, available at LEXIS, News Library, AMBNKR File [hereinafter *2006 Bank and Thrift Deposits*] (listing Morgan Stanley and Lehman Brothers as thrift holding companies); *The Industrial Bank Holding Company Act of 2007: Hearing Before the H. Comm. on Financial Serv.*, 110th Cong. 9–11 (2007) (statement of Sheila C. Bair, Chairman, FDIC), available at <http://www.fdic.gov/news/news/speeches/archives/2007/chairman/spapr2507a.html> [hereinafter *2007 Bair Statement*] (noting Morgan Stanley, Goldman and Lehman as owners of ILCs).

⁴⁸ *2006 Bank and Thrift Deposits*, *supra* note 47 (showing that Morgan Stanley’s thrift held almost \$31 billion of deposits and Lehman’s thrift held almost \$18 billion of deposits at the end of 2006); *2007 Bair Statement*, *supra* note 47 (showing that ILCs owned by Morgan Stanley, Goldman Sachs and Lehman Brothers held deposits of \$16.6 billion, \$11.0 billion and \$2.6 billion, respectively, at the end of 2006).

⁴⁹ Wilmarth, *Banking and Commerce*, *supra* note 26, at 1590; see Wilmarth, *supra* note 13, at 411, 423–25, 447–49; see also George Pennacchi, *Deposit Insurance, Bank Regulation, and Financial System Risks*, 53 J. MONETARY ECON. 1, 15 (2006).

⁵⁰ Wilmarth, *Banking and Commerce*, *supra* note 26, at 1591; see also Pennacchi, *supra* note 49, at 15.

⁵¹ Wilmarth, *Banking and Commerce*, *supra* note 26, at 1591; see also Jed Horowitz, *Merrill Taps U.S. Bank Chief*, WALL ST. J., Feb. 26, 2008, at B11, available at LEXIS, News Library, File WSJNL (reporting that “[Merrill] sweeps uninvested cash in clients’ brokerage accounts into bank accounts, which generally pay lower interest rates than traditional money-market accounts”).

insurance fund and by the potentially unlimited taxpayer guarantee that stands behind that fund.⁵²

MMMFs pay significantly higher rates, compared to bank deposits, because they are not insured by the FDIC and are protected only by the much weaker insurance scheme administered by the Securities Investor Protection Corporation (SIPC).⁵³ In addition, unlike FDIC-insured deposits, MMMFs cannot be used to fund loans and must be invested in

⁵² The FDIC's Deposit Insurance Fund (DIF) held \$52.8 billion as of March 31, 2008, but declined to \$18.9 billion at the end of 2008. During 2008, 25 FDIC-insured institutions with assets of \$372 billion failed. In addition, more than 250 other institutions with assets of \$160 billion were placed on the "problem" list. The FDIC recorded \$40.2 in loss provisions during 2008 to reflect actual and expected losses from failures of FDIC-insured institutions. Those loss provisions caused the drop in the DIF's balance. Fed. Deposit Ins. Corp., FDIC Q. Banking Profile, 4th Qtr. 2008, at 14, 15. tbls. I-B & II-B. Under 12 U.S.C. § 1824(a), the FDIC is authorized to borrow up to \$30 billion from the United States Treasury to cover shortfalls in the DIF. In March 2009, due to the declining balance in the DIF, Senator Christopher Dodd, chairman of the Senate Banking Committee, introduced a bill to increase the FDIC's line of credit at the Treasury to as much as \$500 billion. Damian Paletta, *U.S. News: Bill Seeks to Let FDIC Borrow up to \$500 Billion*, WALL ST. J., Mar. 6, 2009, at A3, available at LEXIS, News Library, File WSJNL.

Even before the current financial crisis, there was "little doubt that, in practice, the full faith and credit of the United States stands behind the FDIC." Joe Peek & James A. Wilcox, *The Fall and Rise of Safety Net Subsidies*, in TOO BIG TO FAIL: POLICIES AND PRACTICES IN GOVERNMENT BAILOUTS 169, 180 (Benton E. Gup ed., 2004). For example, during the thrift crisis of the 1980s, Congress passed a resolution in 1987, declaring that "it is the sense of the Congress that it should reaffirm that deposits up to the statutorily prescribed amount in federally insured depository institutions are backed by the full faith and credit of the United States." Competitive Equality Banking Act of 1987, Pub. L. No. 100-86, § 901(b), 101 Stat. 657. Congress ultimately spent \$132 billion of taxpayer funds to protect thrift depositors and resolve thrift failures. Wilmarth, *Banking and Commerce*, supra note 26, at 1589. In view of the extraordinary financial assistance provided to FDIC-insured banks by the federal government during the present crisis, there can no longer be any doubt that the federal government effectively guarantees the payment of all FDIC-insured deposits. See *infra* Part III.C.

⁵³ Unlike the FDIC, the SIPC is not a government agency. Instead, it is a nonprofit corporation whose members are securities broker-dealers. SIPC's members pay assessments to generate the insurance fund administered by the SIPC. At the end of 2007, the SIPC fund contained only \$1.5 billion, and the SIPC is authorized to borrow only \$1 billion from the United States Treasury. SECURITIES INVESTOR PROTECTION CORPORATION, 2007 ANNUAL REPORT 4, 8, available at http://www.sipc.org/pdf/SIPC_Annual_Report_2007_FINAL.pdf; see also LOUIS LOSS & JOEL SELIGMAN, FUNDAMENTALS OF SECURITIES REGULATION 60-61, 879 (5th ed. 2004) (explaining the purpose and role of the SIPC). In 2008, the discovery of a massive Ponzi scheme orchestrated by Bernard Madoff exposed the SIPC to potential claims by investors that potentially could far exceed its insurance fund. See Jane J. Kim, *The Madoff Fraud Case: Burned Investors Won't Find Strong Safety Net*, WALL ST. J., Dec. 17, 2008, at A8, available at LEXIS, News Library, WSJNL File ("Some industry watchers question whether SIPC has enough in reserves to cover potential claims in the Madoff liquidation."). Moreover, in contrast to the FDIC, which has authority to examine FDIC-insured banks and to provide financial assistance to failing banks, the SIPC has no power to examine or rehabilitate its members. Instead, the SIPC's sole responsibility is to liquidate insolvent broker-dealers and to pay a narrow range of qualifying claims presented by the insolvent firms' customers. For example, the SIPC does not protect customers from losses due to declines in the market value of securities or from fraud or breach of contract committed by broker-dealers. See Per Jebsen, *How to Fix Unpaid Arbitration Awards*, 26 PACE L. REV. 183, 223-25 (2006) (stating that the SIPC does not cover claims for fraud); Thomas W. Joo, *Who Watches the Watchers? The Securities Investor Protection Act, Investor Confidence, and the Subsidization of Failure*, 72 S. CAL. L. REV. 1071, 1093-97, 1105-06 (1999) (noting that the SIPC fund does not provide "insurance" for claims "based on declines in the market value of securities, fraud or breach of contract by the debtor" and that the "SIPC cannot rehabilitate an insolvent member firm, but must liquidate it").

short-term, highly-rated, and low-yielding debt securities.⁵⁴ Thus, FDIC-insured deposits are doubly attractive to financial conglomerates because they provide a subsidized, low-cost source of funding and can be used to finance commercial and consumer loans.⁵⁵

C. *Convergence Between the Activities of Banks and Securities Firms*

Deregulation and consolidation spurred a growing convergence between the activities of the largest banks and securities firms during the past decade. Both sets of institutions pursued similar strategies in an effort to achieve dominant positions in the capital markets.⁵⁶ In the global markets for debt and equity securities, the top-ten underwriters in 2000 included the “big three” U.S. banks (Citigroup, Chase and BofA), three major foreign universal banks (Credit Suisse, Deutsche and UBS), and the “big four” U.S. securities firms.⁵⁷ This “top-ten” group of global securities underwriters remained unchanged during 2001–2007, except that Barclays, a leading U.K. bank, replaced BofA as a top-ten underwriter during the last three years of that period.⁵⁸ The top-ten underwriters accounted for nearly

⁵⁴ Wilmarth, *Banking and Commerce*, *supra* note 26, at 1591.

⁵⁵ *Id.*; Wilmarth, *supra* note 13, at 424–25, 448–49. A 2006 comment letter filed by the Securities Industry Association with the FDIC stated that:

Bank subsidiaries have added significant value and versatility to SIA member corporate groups, because member owned banks hold idle funds swept from brokerage accounts [into] deposits. . . . This has provided a reliable and low cost source of deposits to fund traditional banking products and services offered to customers of the corporate group

Wilmarth, *Banking and Commerce*, *supra* note 26, at 1592 (quoting Letter to the FDIC, from the Securities Industry Association, (Oct. 10, 2006), in Comments on Industrial Loan Companies and Industrial Banks, Comment No. 71, at 3, available at <http://www.fdic.gov/regulations/laws/federal/2006/06comilc.html>).

⁵⁶ See, e.g., Elyas Elyasiani et al., *Convergence and Risk-return Linkages Across Financial Service Firms*, 31 J. BANKING & FIN. 1167, 1168–69, 1184–87 (2007) (providing empirical evidence of “convergence across [financial institutions] of different types as well as effective inter-industry competition, particularly between large banks and securities firms”); see also Joel F. Houston & Kevin J. Stiroh, *Three Decades of Financial Sector Risk*, Fed. Res. Bank N.Y. Staff Rep. No. 248, at 1–4, 9–10, 17–22, 31–32 (Mar. 2006), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=891171 (finding “an increased correlation in the returns across financial industries, indicating a growing convergence among financial service providers”).

⁵⁷ Smith, *supra* note 41, at 116–21; *Year-End Review of Underwriting: 2001 Underwriting Rankings*, WALL ST. J., Jan. 2, 2002, at R19 (“Global Stocks and Bonds” tbl.) (copy on file with the *Connecticut Law Review*) [hereinafter *2001 Global Underwriting Rankings*] (listing the top ten global underwriters of stocks and bonds during 2001); see also *supra* note 35 & 49 and accompanying text (identifying the three largest U.S. banks and the four largest U.S. securities firms).

⁵⁸ *2001 Global Underwriting Rankings*, *supra* note 57 (showing that the top ten list of global underwriters remained the same during 2000 and 2001); *Year-End Review of Markets & Finance: 2003 Underwriting Rankings*, WALL ST. J., Jan. 2, 2004, at R17 (“Global Stocks and Bonds” tbl.) (copy on file with the *Connecticut Law Review*) [hereinafter *2003 Global Underwriting Rankings*] (showing that the top ten global underwriters remained the same in 2002 and 2003); *Year-End Review of Markets & Finance: 2005 Underwriting Rankings*, WALL ST. J., Jan. 3, 2006, at R10 (“Global Stocks and Bonds” tbl.) (copy on file with the *Connecticut Law Review*) [hereinafter *2005 Global Underwriting Rankings*] (showing that the top global underwriters remained the same in 2005, except that Barclays replaced BofA as a top ten underwriter in 2005); *Year-End Review of Markets & Finance: 2006 Underwriting Rankings*, WALL ST. J., Jan. 2, 2007, at R18 (“Global Stocks and Bonds” tbl.) (copy on file at the

three-fifths of the global proceeds from underwriting debt and equity securities during 2005–2007.⁵⁹ Citigroup became the world’s leading underwriter of stocks and bonds in 2001 and retained that position through the end of 2007.⁶⁰

The leading global underwriters of stocks and bonds also became the dominant providers of other financial products, including syndicated loans, asset-backed securities, over-the-counter (OTC) derivatives and collateralized debt obligations (CDOs). Based on total fees for investment banking services, the top twenty global investment banks in 2007 included all of the eleven institutions named above (the “top eleven global underwriters”), along with Wachovia and several large foreign universal banks, including HSBC and BNP Paribas.⁶¹ As shown below, large universal banks sought to maximize their fee-based revenues by pursuing an “originate to distribute” (OTD) business strategy, in which they (i) originated and serviced loans, (ii) underwrote ABS and CDOs based on those loans, (iii) created additional financial instruments (including OTC derivatives) whose values were related in complex ways to the underlying loans, and (iv) distributed the resulting securities and other financial instruments to investors. The following sections provide a brief overview of the primary fee-based products and services provided by universal banks.

1. *Syndicated Lending*

In order to fund syndicated loans, large banks organize groups of

Connecticut Law Review) [hereinafter *2006 Global Underwriting Rankings*] (showing that the top global underwriters remained the same in 2006, except that Barclays continued to rank among the top ten underwriters in place of BofA); *Year-End Review of Markets & Finance: 2007 Underwriting Rankings*, WALL ST. J., Jan. 2, 2008, at R18 (“Global Stocks and Bonds” tbl.) (copy on file at the *Connecticut Law Review*) [hereinafter *2007 Global Underwriting Rankings*] (showing that the top global underwriters remained the same in 2007, except that Barclays continued to rank among the top ten underwriters in place of BofA).

⁵⁹ *2005 Global Underwriting Rankings*, *supra* note 58 (“Global Stocks and Bonds” tbl.) (showing that the top ten underwriters received fifty-eight percent of the global proceeds for underwriting stocks and bonds in 2005); *2006 Global Underwriting Rankings*, *supra* note 58 (“Global Stocks and Bonds” tbl.) (showing that the top ten underwriters received fifty-eight percent of such proceeds during 2006); *2007 Global Underwriting Rankings*, *supra* note 58 (“Global Stocks and Bonds” tbl.) (showing that the top ten underwriters received fifty-seven percent of such proceeds during 2007).

⁶⁰ Randall Smith, *Deals & Deal Makers: Citigroup Unseats Merrill Lynch as Busiest Underwriter*, WALL ST. J., Dec. 28, 2001, at C1; Randall Smith, *Year End Review of Markets and Finance 2006: Underwriting Shifts Into Overdrive*, WALL ST. J., Jan. 2, 2007, at R18, available at LEXIS, News Library, WSJNL File (reporting that “Citigroup held its No. 1 ranking among [global] underwriters for a sixth consecutive year”); Randall Smith, *Credit Woes Take Toll on Underwriting*, WALL ST. J., Jan. 3, 2008, at R18, available at LEXIS, News Library, WSJNL File (reporting that “Citigroup led the ranks of the busiest underwriters” in 2007). In 2008, Citigroup fell to third place among global debt and equity underwriters, behind Chase and Barclays. Randall Smith, *Year-End Review of Markets & Finance 2008: Stock and Bond Issuance Shrivels*, WALL ST. J., Jan. 2, 2009, at R13, available at LEXIS, News Library, WSJNL File.

⁶¹ See Lisa Kassenaar, *The Reckoning*, BLOOMBERG MARKETS MAGAZINE, Apr. 2008, at 1 (“Bloomberg 20” tbl.).

financial institutions and investors in a manner that resembles the formation of an underwriting syndicate for an offering of debt securities. As a practical matter, lead banks for syndicated loans (also known as agent banks or arranger banks) occupy a role similar to managing underwriters for offerings of debt securities. Lead banks underwrite syndicated loans for the purpose of distributing portions of those loans to investors, and lead banks seek to retain the smallest possible pieces of those loans on their balance sheets.⁶²

Lead banks negotiate the terms of a syndicated loan with the borrower and then sell portions of the loan to banks and other institutional investors who agree to join the syndicate. Lead banks also take responsibility for servicing the loan, including (i) collecting payments from the borrower and distributing those payments to syndicate members, (ii) monitoring the borrower's performance of the loan agreement, and (iii) negotiating changes in the loan agreement or enforcing the agreement against a defaulting borrower.⁶³

The global syndicated lending market is "the largest source of corporate funds in the world"⁶⁴ and "reached an all-time high [in 2006] with issuance of over \$3.5 trillion."⁶⁵ A recent study determined that Chase, Citigroup and BofA were the top three lead banks in the global syndicated loan market from 2003 through 2006. Other major banks in that market included BNP Paribas, RBS, HSBC, Barclays, Credit Agricole, Deutsche, Societe Generale, Credit Suisse and Wachovia.⁶⁶

The U.S. syndicated loan market, which represents the largest segment of the global market, has exceeded \$1 trillion in most years since 1996, with peak volumes above \$1.6 trillion in 2006 and 2007.⁶⁷ Chase, BofA

⁶² Wilmarth, *supra* note 13, at 379; see also Mitchell Berlin, *Dancing with Wolves: Syndicated Loans and the Economics of Multiple Lenders*, FED. RES. BANK OF PHILA. BUS. REV., 3rd Qtr. 2007, at 1, 2 (describing the loan syndication process); Benjamin C. Esty, *Structuring Loan Syndicates: A Case Study of the Hong Kong Disneyland Project Loan*, J. APPLIED CORP. FIN., Fall 2001, at 80, 81-83 (2001) (describing the loan syndication process). For example, a senior officer in Chase's syndicated lending operation stated that "[w]e are investment bankers, not commercial bankers, which means that we underwrite to distribute, not to put a loan on our balance sheet." Esty, *supra*, at 80 (quoting Matt Harris).

⁶³ Berlin, *supra* note 62, at 2, 5-7; Yener Altunbas & Alper Kara, *Does Concentrated Arranger Structure in US Syndicated Loan Markets Benefit Large Firms?* 2 (Aberdeen Bus. Sch., Working Paper No. 2, 2007), available at <http://ssrn.com/abstract=1009536>.

⁶⁴ Esty, *supra* note 62, at 80.

⁶⁵ Altunbas & Kara, *supra* note 63, at 1-3; see also Esty, *supra* note 62, at 80 (reporting that the global syndicated loan market increased from \$400 billion in 1990 to \$2.2 trillion in 2000).

⁶⁶ Miguel A. Ferreira & Pedro P. Matos, *When Banks Are Insiders: Evidence from the Global Syndicated Loan Market* 10, 34 tbl.1 (FDIC Center for Fin. Res., Working Paper No. 17, 2008), available at <http://ssrn.com/abstract=1113406>.

⁶⁷ Berlin, *supra* note 62, at 2 (providing data for the U.S. syndicated lending market from 1997 through 2006, showing that the size of the market exceeded \$1 trillion in each of those years except 2002 and 2003); *2006 Global Underwriting Rankings*, *supra* note 58 ("Loan-Book Managers" tbl.) (reporting \$1.67 trillion of U.S. syndicated loans in 2006); *2007 Global Underwriting Rankings*, *supra* note 58 ("Loan-Book Managers" tbl.) (reporting \$1.77 trillion of U.S. syndicated loans in 2007). In

and Citigroup controlled about three-fifths of the U.S. syndicated lending market from 2000 through 2007.⁶⁸ During the same period, Wachovia, Credit Suisse, Deutsche, UBS, Barclays, RBS and Wells Fargo also ranked among the largest U.S. syndicated lenders.⁶⁹

From the late 1990s through 2007, the “big four” securities firms were increasingly significant competitors in the syndicated lending market, particularly with regard to leveraged loans, which are higher-yielding, higher-risk loans.⁷⁰ From 2004 to 2007, the leveraged syndicated lending market expanded rapidly in response to (i) demand by investors for higher-yielding investments, and (ii) demand by private equity firms for financing in order to complete leveraged buyout transactions (LBOs). The global leveraged lending market grew from \$250 billion in 1996 to \$700 billion in 2004, \$900 billion in 2005, \$1.2 trillion in 2006, and \$1.6 trillion in 2007.⁷¹ This dramatic growth in leveraged lending fueled a global boom in LBOs.⁷² The total value of global LBOs exceeded \$1.8 trillion between

2008, the volume of U.S. syndicated loans declined to \$760 billion. *See Year-End Review of Markets & Finance 2008: 2008 Underwriting Rankings*, WALL ST. J., Jan. 2, 2009, at R 13 (“Syndicated Loans” tbl.) (copy on file with the *Connecticut Law Review*).

⁶⁸ 2001 *Global Underwriting Rankings*, *supra* note 58 (“Loan-Book Managers” tbl.) (showing that the three banks controlled sixty-seven percent of the U.S. syndicated lending market in 2000 and seventy percent of that market in 2001); 2003 *Global Underwriting Rankings*, *supra* note 58 (“Loan-Book Managers” tbl.) (showing that the market shares for the same three banks were sixty-six percent in 2002 and fifty-nine percent in 2003); 2005 *Global Underwriting Rankings*, *supra* note 58 (“Loan-Book Managers” tbl.) (showing that the market shares for the same three banks were sixty-six percent in 2004 and sixty-three percent in 2005); 2007 *Global Underwriting Ranking*, *supra* note 58 (“Loan-Book Managers” tbl.) (showing that the market shares for the same three banks were sixty percent in 2006 and fifty-seven percent in 2007).

⁶⁹ For market-share data for the top lenders in the U.S. syndicated loan market from 2001 through 2007, see “Loan-Book Manager” tables in the 2001, 2003, 2005, and 2007 “Global Underwriting Rankings,” *supra* note 58.

⁷⁰ The term “leveraged loan” is generally used to refer to a loan in the amount of \$100 million or more that is made to a company with non-investment grade bonds outstanding or that carries a yield of at least 125 basis points above a risk-free benchmark rate. Thus, leveraged loans are higher-yielding, higher-risk loans. Edward I. Altman, *Global Debt Markets in 2007: New Paradigm or the Great Credit Bubble?*, 19 J. APPLIED CORP. FIN., Summer 2007, at 17, 24. For discussions of the competition for syndicated loans between large commercial banks and major securities firms, see, for example, Wilmarth, *supra* note 13, at 326–27, 411; Todd Davenport, *Perspectives on a Crunch*, AM. BANKER, Aug. 6, 2007, at 1 (reporting that the ten largest participants in the leveraged syndicated loan market during the first half of 2007 were Chase, BofA, Citigroup, Wachovia, Credit Suisse, Deutsche, UBS, Goldman, Merrill and Lehman); Emily Thornton, *The New Merrill Lynch*, BUS. WK., May 5, 2003, at 80, 85 (reporting that Merrill Lynch had significantly expanded its syndicated lending activities during 2002); 2007 *Global Underwriting Rankings*, *supra* note 58 (“Loan-Book Managers” tbl.) (reporting that Goldman, Lehman and Merrill ranked among the top ten U.S. syndicated lenders during 2007).

⁷¹ Comm. on the Global Fin. System, *Private Equity and Leveraged Finance Markets* 11 graph 2.2, 17–21 (CGFS Papers, Working Paper No. 30, 2008), available at www.bis.org/publ/cgfs30.htm [hereinafter *2008 CGFS Private Equity Paper*].

⁷² See Viral V. Acharya et al., *Private Equity: Boom and Bust?*, 19 J. APPLIED CORP. FIN., Fall 2007, at 44, 44–46, 49–50; Altman, *supra* note 70, at 17, 24–25. More than half of the leveraged loans issued in the U.S. and Europe between 2004 and 2007 were used to finance LBOs and other corporate transactions, including recapitalizations, mergers and acquisitions. *See 2008 CGFS Private Equity Paper*, *supra* note 71, at 13, 14 graph 2.6.

2004 and 2007.⁷³

During the same period, lead banks for syndicated leveraged loans frequently entered into “firm-commitment underwriting[s],” in which they agreed to provide bridge loans to the borrowers before they finished the syndication process.⁷⁴ Lead banks incurred significant “warehouse risk” in making such commitments, because they were obliged to hold the bridge loans on their balance sheets if they could not successfully complete the syndication.⁷⁵ Lead banks nevertheless eagerly accepted that risk because they expected to earn significant fees from (i) arranging and overseeing the syndicated loans, and (ii) providing associated investment banking services (e.g., underwriting high-yield debt and providing merger advice) to private equity firms and other sponsors of LBO transactions.⁷⁶

2. Securitization of Consumer and Commercial Loans

a. Overview of the Securitization Process

Securitization has enabled universal banks to increase significantly the volume of their consumer and commercial lending activities. Banks traditionally provided loans by acting as intermediaries between depositors and borrowers. Banks collected deposits to fund their lending activities and monitored the performance of borrowers by retaining loans on their balance sheets.⁷⁷ However, for two reasons, traditional on-balance-sheet lending activities became significantly less profitable and less appealing for large banks during the past three decades. First, as consumers gained access to alternative investment vehicles like mutual funds, they demanded higher yields on their deposits and were less likely to invest their savings in deposits. Retail deposits therefore became a more expensive and less reliable source of funding for banks.⁷⁸ Second, banks are required to maintain capital reserves based on the assets held on their balance sheets, including loans. The implementation of stricter capital requirements for U.S. and foreign banks after 1980 made it much more costly for banks to

⁷³ 2008 *CGFS Private Equity Paper*, *supra* note 71, at 20 graph 3.2; *see also* Steven N. Kaplan & Par Stromberg, *Leveraged Buyouts and Private Equity* 23 J. ECON. PERSPECTIVES, Winter 2009, at 121, 126–27 (stating that “[f]rom 2005 through June 2007, CapitalIQ recorded a total of 5,188 buyout transactions at a combined enterprise value of over \$1.6 trillion”).

⁷⁴ 2008 *CGFS Private Equity Paper*, *supra* note 71, at 14–16; *see also id.* at 14 n.9 (noting that most public issuances of high-yield bonds are similarly made through firm-commitment underwritings).

⁷⁵ *Id.* at 15–16.

⁷⁶ EUROPEAN CENTRAL BANK, LARGE BANKS AND PRIVATE EQUITY-SPONSORED LEVERAGED BUYOUTS IN THE EU 16–17, 26–27 (2007), *available at* www.ecb.int/pub/pdf/other/largebanksandprivateequity200704en.pdf [hereinafter 2007 ECB PRIVATE EQUITY LBO REPORT]; 2008 *CGFS Private Equity Paper*, *supra* note 71, at 14–15.

⁷⁷ Wilmarth, *supra* note 13, at 227–29.

⁷⁸ *Id.* at 239–41; Christine M. Bradley & Lynn Shibut, *The Liability Structure of FDIC-Insured Institutions: Changes and Implications*, 18 FDIC BANKING REV., No. 2, at 1, 2 (2006).

hold loans on their balance sheets.⁷⁹

Securitization addressed both of the foregoing problems. Securitization allowed banks to reduce their reliance on deposits and to obtain funding for their loans through the capital markets. By using securitization techniques, banks converted illiquid loans into asset-backed securities (ABS) that could be sold to investors.⁸⁰ Securitization also enabled banks to move loans off their balance sheets and thereby reduce their regulatory capital requirements.⁸¹

Securitization offered at least three additional benefits to lenders. First, banks with less than a “AAA” credit rating could use securitizations to create ABS that qualified for “AAA”-ratings.⁸² Second, banks earned substantial fees for originating and securitizing loans and could earn additional fees by servicing the loans held in securitized pools.⁸³ Third, securitization permitted banks to transfer to investors much of the credit risk associated with the securitized loans.⁸⁴

The securitization process begins when a bank (referred to as the

⁷⁹ Charles W. Calomiris & Joseph R. Mason, *Credit Card Securitization and Regulatory Arbitrage*, 26 J. FIN. SERV. RES. 5, 8–9 (2004); Wilmarth, *supra* note 13, at 403–06, 457–61.

⁸⁰ Kurt Eggert, *Held Up in Due Course: Predatory Lending, Securitization, and the Holder in Due Course Doctrine*, 35 CREIGHTON L. REV. 503, 535–36 (2002); Arnoud W.A. Boot & Anjan V. Thakor, *The Accelerating Integration of Banks and Markets and Its Implications for Regulation* 12–13 (Amsterdam Ctr. for Law & Econ., Working Paper No. 2008-02, 2009), available at <http://ssrn.com/abstract=1108484>.

⁸¹ FEIN, *supra* note 14, § 13.01, at 13–4; STEVEN L. SCHWARCZ ET AL., *SECURITIZATION, STRUCTURED FINANCE AND CAPITAL MARKETS* § 7.04, at 155 (2004); Calomiris & Mason, *supra* note 79, at 8; Eggert, *supra* note 80, at 547. However, banks remained subject to special capital charges if they retained credit risk for a portion of the securitized loans by giving credit enhancements (for example, by agreeing to hold a “first loss” junior tranche in the ABS or to buy back loans that did not satisfy criteria specified by the securitization documents). Risk-Based Capital Guidelines: Final Rule, 66 Fed. Reg. 59,614, 59,619–25 (Nov. 29, 2001); FEIN, *supra* note 14, §§ 13.04, 13.05.

⁸² SCHWARCZ ET AL., *supra* note 81, § 1.03, at 8–16; Joshua D. Coval et al., *The Economics of Structured Finance* 23 J. ECON. PERSPECTIVES, Winter 2009, at 3, 3–7; Eggert, *supra* note 80, at 545–46.

⁸³ BANK FOR INT’L SETTLEMENTS, *BASEL COMM. ON BANKING SUPERVISION, CREDIT RISK TRANSFER: DEVELOPMENTS FROM 2005 TO 2007*, at 7 (2008), available at <http://www.bis.org/publ/joint21.htm> [hereinafter 2008 BASEL CRT REPORT]; FEIN, *supra* note 14, § 13.01, at 13–4; Robert DeYoung & Tara Rice, *How Do Banks Make Money? The Fallacies of Fee Income*, 28 ECON. PERSPECTIVES 34, 35–36, 39, 42 (2004); Adam B. Ashcraft & Til Schuermann, *Understanding the Securitization of Subprime Mortgage Credit* 5 (Wharton Fin. Inst. Ctr., Working Paper No. 07-43, 2008), available at <http://ssrn.com/abstract=1071189>.

⁸⁴ FEIN, *supra* note 14, § 13.01, at 13–4; Kathleen C. Engel & Patricia A. McCoy, *Turning a Blind Eye: Wall Street Finance of Predatory Lending*, 75 FORDHAM L. REV. 2039, 2048–49 (2007). Before 2000, securitization structures often attempted to mitigate the lender’s risk-shifting incentives by requiring the lender to retain the most junior tranches in structured-finance ABS while selling more senior tranches of the ABS to investors. Because the most junior tranches would bear the first losses from any defaults on the pooled loans, the lender would retain a significant portion of the credit risk if it kept those tranches. However, during the subprime lending boom, as discussed below, lenders were able to sell many of the junior tranches in their MBS by packaging them into CDOs that were sold to hedge funds and other institutional investors who wanted the higher yields offered by such securities. See Engel & McCoy, *supra* note 84, at 2065–68 (explaining that lenders were frequently able to transfer the riskiest tranches of ABS to hedge funds and other investors); see also *infra* notes 317, 337 and 339 and accompanying text.

“sponsor”) transfers loans that it has originated, or purchased from others, to a special-purpose entity (SPE). The SPE is structured so that it will be shielded from potential claims arising out of the sponsor’s bankruptcy. The SPE creates a loan pool (sometimes by combining the sponsor’s loans with loans sold by other lenders), and the SPE sells that pool to a second SPE, typically organized as a trust. The role of the second SPE is to manage the loan pool and to issue ABS that confer rights to receive cash flows from the pooled loans. The second SPE (the “SPE issuer”) hires an investment bank (frequently an affiliate of the sponsor) to underwrite the sale of ABS to investors. After the underwriting has been completed, the proceeds paid by investors for the ABS are transferred to the sponsor in payment for the loans. Also, in many cases, the SPE issuer hires the sponsor to act as servicing agent for the securitized loans.⁸⁵

In early securitizations of home mortgages during the 1970s and 1980s, the residential mortgage-backed securities (RMBS) were structured as pass-through certificates that represented undivided pro rata interests in the pooled mortgages. However, pass-through certificates were unattractive to many investors because they were long-term securities that were subject to both prepayment risk and interest rate risk. To attract a broader group of investors, securitization sponsors created structured-finance RMBS, which allocated rights to receive cash flows from the pooled mortgages among various “tranches.” Typically, the holders of tranches of an issue of RMBS were given (i) rights to receive income flows from specified sources (e.g., from payments of principal or interest on the pooled mortgages) and/or (ii) superior or subordinate rights to receive payment in relation to other tranches of the same issue of MBS.⁸⁶

⁸⁵ For discussions of the securitization process, see, for example, Gary B. Gorton & Nicholas S. Souleles, *Special Purpose Vehicles and Securitization*, in *THE RISKS OF FINANCIAL INSTITUTIONS* 549, 549–51, 555–65 (Mark Carey & René M. Stulz eds., 2006); SCHWARCZ ET AL., *supra* note 81, § 1.03; Ashcraft & Schuermann, *supra* note 83, at 2–11; Engel & McCoy, *supra* note 84, at 2045–48; Christopher L. Peterson, *Predatory Structured Finance*, 28 *CARDOZO L. REV.* 2185, 2206–10 (2007) [hereinafter Peterson, *Predatory Finance*]; David E. Vallee, *A New Plateau for the U.S. Securitization Market*, FDIC OUTLOOK (Federal Deposit Insurance Corporation), Fall 2006, at 3, 3–4, available at <http://www.fdic.gov/bank/analytical/regional/ro20063q/na/t3q2006.pdf>; Jennifer E. Bethel et al., *Legal and Economic Issues in Litigation Arising from the 2007-2008 Credit Crisis* 5–15 (Harvard Law & Econ., Discussion Paper No. 612, 2008), available at <http://ssrn.com/abstract=1096582>; Jan A. Kregel, *Changes in the U.S. Financial System and the Subprime Crisis* 7–12 (Levy Econ. Inst., Working Paper No. 530, 2008), available at <http://ssrn.com/abstract=1123937>.

⁸⁶ For discussions of the differences between traditional pass-through securitizations and contemporary structured securitizations, see, for example, Peterson, *Predatory Finance*, *supra* note 85, at 2200–04; Kregel, *supra* note 85, at 5–9; Gregory A. Krohn & William R. Gruver, *The Complexities of the Financial Turmoil of 2007 and 2008*, at 8–10 (2008), available at <http://ssrn.com/abstract=1282250>. The term “structured finance” generally refers to the use of pooling and tranching to create various classes of ABS from a pool of debt instruments. INT’L MONETARY FUND, *GLOBAL FINANCIAL STABILITY REPORT: CONTAINING SYSTEMIC RISKS AND RESTORING FINANCIAL SOUNDNESS* 56 box 2.1 (Apr. 2008), available at <http://www.imf.org/external/pubs/ft/gfstr/2008/01/pdf/text.pdf> [hereinafter April 2008 IMF GFS REPORT]; Coval et al., *supra* note 82, at 3, 6; Sarai Criado & Adrian van Rixtel, *Structured Finance and the Financial Turmoil of 2007-2008: An*

During the past decade, most RMBS and other types of ABS were divided into three general classes of tranches—senior, mezzanine and junior. Senior tranches were given the highest priority to receive cash flows from payments on the pooled loans until those securities were fully paid, and cash flows then trickled down sequentially to the mezzanine and junior tranches. Conversely, losses on the pooled loans were allocated first to the junior tranches, then to the mezzanine tranches, and last to the senior tranches. Underwriters structured their securitizations in consultation with credit rating agencies so that the desired credit rating could be obtained for each tranche. Securitizations were typically structured so that the senior tranches received AAA-ratings, the mezzanine tranches received at least the lowest investment-grade rating (BBB-), and the junior tranches (including equity tranches) were unrated. In addition, underwriters frequently obtained credit enhancements for senior tranches to ensure that those tranches qualified for AAA-ratings. Credit enhancements included over-collateralization (i.e., issuing ABS with a lower face value than the par value of the pooled loans), agreements by lenders to buy back loans that defaulted early, or third-party guarantees against loss (e.g., insurance provided by monoline insurers).⁸⁷

During the late 1980s, federal banking agencies and courts issued a series of rulings that authorized commercial banks to securitize loans that they originated or purchased from others.⁸⁸ Regulators also permitted nonbank subsidiaries of bank holding companies to securitize loans originated by affiliated banks.⁸⁹ As a consequence of those rulings and the enactment of GLBA in 1999, commercial banks and bank holding companies gained broad authority to compete directly with investment banks in securitizing loans and in underwriting or investing in ABS.⁹⁰

Introductory Overview 11 (Banco de Espana, Occasional Paper No. 0808, 2008), available at <http://ssrn.com/abstract=1260748>.

⁸⁷ For discussions of the structuring techniques and credit enhancements used in securitizations, see, for example, STAFF OF THE SEC. & EXCH. COMM'N, SUMMARY REPORT OF ISSUES IDENTIFIED IN THE COMM'N STAFF'S EXAMINATIONS OF SELECT CREDIT RATING AGENCIES 6–10 (2008), available at <http://www.sec.gov/news/studies/2008/craexamination070808.pdf>; Engel & McCoy, *supra* note 84, at 2046–48; Peterson, *Predatory Finance*, *supra* note 85, at 2204–05, 2209–10; Ashcraft & Schuermann, *supra* note 83, at 29–34; Bethel et al., *supra* note 85, at 9–11, 13–15; Gary B. Gorton, *The Subprime Panic*, 15 EUROPEAN FIN. MGMT. 10, 17–23 (2009). In order to avoid regulation under the Securities Act of 1933 and the Investment Company Act of 1940, the issuers and underwriters of ABS were required to sell either (i) investment-grade ABS or (ii) ABS offered in private placements to qualified institutional buyers under the SEC's Rule 144A. See SCHWARCZ ET AL., *supra* note 81, § 6.01, at 129–30, 135–36, § 6.02, at 139–41.

⁸⁸ *E.g.*, *Sec. Indus. Ass'n v. Clarke*, 885 F.2d 1034, 1049 (2d Cir. 1989); FEIN, *supra* note 14, § 13.02[A] (discussing orders issued in 1986 and 1987 by the OCC); 12 C.F.R. § 1.3(g) (2008).

⁸⁹ *E.g.*, *Sec. Indus. Ass'n v. Fed. Reserve Sys.*, 839 F.2d 47, 67 (2d Cir. 1988); FEIN, *supra* note 14, § 13.02[B].

⁹⁰ FEIN, *supra* note 14, § 13.02; Kregel, *supra* note 85, at 10–11. For example, under the OCC's regulations, national banks may invest in RMBS and other ABS if those securities have investment-grade ratings. 12 C.F.R. §§ 1.2(m)–(n), 1.3(e)–(f) (2008).

b. The Rapid Expansion of Securitization Markets after 1990

Securitization markets experienced explosive growth after 1990. Government-sponsored enterprises (GSEs) issued the first RMBS in the early 1970s, and the issuance of RMBS by GSEs grew steadily thereafter.⁹¹ The total amount of outstanding RMBS issued by GSEs nearly quadrupled from 1991 through 2007, rising from \$1.13 trillion to \$4.3 trillion.⁹²

The GSEs' success with RMBS encouraged banks and other financial institutions to pursue their own securitization strategies. Beginning in the late 1970s, banks and securities firms began to issue "private label" RMBS. Private label RMBS were backed by residential real estate loans that did not conform to Fannie Mae's and Freddie Mac's underwriting guidelines, including "jumbo" mortgages, adjustable-rate mortgages (ARMs), "subprime" and "Alt-A" mortgages, home equity loans, and home equity lines of credit (HELOCs).⁹³ Banks and securities firms also issued ABS backed by other types of consumer loans, including credit card loans, auto loans, manufactured home loans, and student loans.⁹⁴ The total outstanding amounts of private label RMBS and consumer ABS increased more than tenfold during 1991–2007, rising from \$300 billion to \$3.2 trillion. The 2007 figure included \$2.52 trillion of private label RMBS and

⁹¹ Congress established several GSEs to promote residential mortgage lending, including (i) the Government National Mortgage Association (GNMA or Ginnie Mae), which purchase home mortgages insured by the Federal Housing Administration and the Veterans Administration and issue RMBS backed by those loans, and (ii) the Federal National Mortgage Association (FNMA or Fannie Mae) and the Federal Home Loan Mortgage Corporation (FHLMC or Freddie Mac), which purchase conventional fixed-rate home mortgages and issue RMBS backed by those loans. *E.g.*, Richard S. Carnell, *Handling the Failure of a Government-Sponsored Enterprise*, 80 WASH. L. REV. 565, 573–80 (2005); Richard K. Green & Susan M. Wachter, *The American Mortgage in Historical and International Context*, 19 J. ECON. PERSP. 93, 95–100 (2005); Peterson, *Predatory Finance*, *supra* note 85, at 2195–99. The federal government placed Fannie Mae and Freddie Mac in conservatorship in September 2008 to prevent their failure, after both GSEs suffered large losses due to accelerating delinquencies and defaults on mortgages they held or guaranteed. *See* David J. Reiss, *Fannie Mae and Freddie Mac and the Future of Federal Housing Finance Policy: A Study of Regulatory Privilege*, at 1–4, 10–27 (Brooklyn Law School Leg. Stud. Paper No. 134), available at <http://ssrn.com/abstract=1357337>.

⁹² BD. OF GOVERNORS OF THE FED. RESERVE SYS., FED. RES. STATISTICAL RELEASE Z.1: FLOW OF FUNDS ACCOUNTS OF THE UNITED STATES, FOURTH QUARTER 1996, at 77 tbl.L.125 (1997) [hereinafter 1996 FLOW OF FUNDS REPORT] (providing figure for year-end 1991); BD. OF GOVERNORS OF THE FED. RES. SYS., FED. RES. STATISTICAL REL. Z.1: FLOW OF FUNDS ACCOUNTS OF THE UNITED STATES, FOURTH QUARTER 2007, at 78 tbl.L.125 (2008) [hereinafter 2007 FLOW OF FUNDS REPORT] (providing amount for year-end 2007).

⁹³ Engel & McCoy, *supra* note 84, at 2045–46 n.32; Peterson, *Predatory Finance*, *supra* note 85, at 2198–2200, 2214–15. Prior to their nationalization in 2008, Fannie Mae and Freddie Mac primarily engaged in purchasing and securitizing "conforming" fixed-rate mortgages that satisfied maximum size limits and other underwriting guidelines established by Congress. *Reforming the Regulation of Government Sponsored Entities: Hearing before the S. Comm. on Banking, Housing, and Urban Affairs*, 110th Cong. 2 & n.2 (2008) (statement of William B. Shear, Director of Financial Markets and Community Investment, Government Accountability Office); David J. Reiss, *The Federal Government's Implied Guarantee of Fannie Mae and Freddie Mac: Uncle Sam Will Pick Up the Tab*, 42 GA. L. REV. 1019, 1032 & nn.55–56 (2008).

⁹⁴ Vallee, *supra* note 85, at 4–6; Wilmarth, *supra* note 13, at 388–90, 403.

\$680 billion of ABS backed by other types of consumer credit.⁹⁵

At the end of 2007, GSE-issued RMBS and private label RMBS accounted for almost two-thirds of all outstanding home mortgages, while consumer ABS accounted for more than a quarter of all outstanding consumer loans.⁹⁶ The securitized share of both sectors increased significantly during 1991–2007.⁹⁷

During the past decade, large financial conglomerates significantly expanded their presence in securitization markets, and big commercial banks became more closely linked to the capital markets.⁹⁸ For example, Lehman and Bear Stearns were the top underwriters for private label RMBS during 2004–2007, while Citigroup was the top underwriter for ABS backed by other types of consumer debt. Other leading underwriters of RMBS and ABS during 2004–2007 included Chase, BofA, Credit Suisse, Deutsche, Goldman, Morgan Stanley, Merrill, RBS, UBS and Wachovia.⁹⁹ Thus, the top underwriters of RMBS and ABS included the five largest Wall Street securities firms and several of the world's leading

⁹⁵ 1996 FLOW OF FUNDS REPORT, *supra* note 92, at 77 tbl.L.126 (providing year-end 1991 data for issuers of (i) federal agency and GSE-issued RMBS backed by privately-issued collateralized mortgage obligations (CMOs), (ii) privately-issued RMBS, and (iii) privately-issued ABS backed by consumer debt); 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 79 tbl.L.126 (providing year-end 2007 data for issuers of same types of RMBS and ABS).

⁹⁶ 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 78 tbl.L.125, 79 tbl.L.126, 94 tbl.L.218 (showing that GSE-issued RMBS and private label RMBS accounted for \$6.8 trillion of the \$10.5 trillion in outstanding home mortgages at the end of 2007); *id.* at 96 tbl.L.222 (showing that ABS issuers accounted for \$680 billion out of \$2.55 trillion in outstanding consumer loans at the end of 2007).

⁹⁷ In 1991, GSE-issued RMBS and private label RMBS accounted for less than half of the outstanding home mortgages (\$1.13 trillion of \$2.85 trillion), while consumer ABS accounted for only one-eighth of outstanding consumer loans (\$103 billion of \$797 billion). 1996 FLOW OF FUNDS REPORT, *supra* note 92, at 77 tbls.L.125 & L.126, 92 tbl.L.218 and 94 tbl.L.222.

⁹⁸ See Arnoud W.A. Boot & Anjan V. Thakor, *The Accelerating Integration of Banks and Markets and Its Implications for Regulation* 6–10, 15–16 (Amsterdam Ctr. L. & Econ., Working Paper No. 2008-02, Mar. 18, 2008), available at <http://ssrn.com/abstract=1108484> [hereinafter Boot & Thakor, *Banks and Markets*]; Claudio Borio, *The Financial Turmoil of 2007?: A Preliminary Assessment and Some Policy Considerations* 11–12 (Bank for Int'l Settlements, Working Paper No. 251, Mar. 2008), available at <http://ssrn.com/abstract=1132776>; DeYoung & Rice, *supra* note 83, at 35–36, 39.

⁹⁹ See Paul Menchaca, *Lehman Repeats as RMBS Champ*, ASSET SECURITIZATION REP., Jan. 7, 2008, available at LEXIS, News Library, ASTSRP File (listing top RMBS underwriters during 2007); Donna Mitchell, *Citi Holds Lead in '06 as Top Arranger: Countrywide Reprises Top Issuer Role*, ASSET SECURITIZATION REP., Jan. 8, 2007, available at Lexis, News Library, ASTSRP File (listing top ABS underwriters for 2006); Donna Mitchell, *More 08 Deals Seen from Strong Consumer ABS: Growth of 20% Could Happen for Autos and Cards; JPMorgan Ends Year Atop Lead Manager Heap*, ASSET SECURITIZATION REP., Jan. 7, 2008, available at LEXIS, News Library, File Name ASTSRP (listing top ABS underwriters for 2007); Allison Pyburn, *Bear Stearns Jeads RMBS League Tables Again*, ASSET SECURITIZATION REP., Jan. 8, 2007, available at LEXIS, News Library, ASTSRP File (listing top RMBS underwriters during 2006); Alison Pyburn, *RMBS Grows a Robust \$200bln in 2005, with Bear Top Arranger*, ASSET SECURITIZATION REP., Jan. 9, 2006, available at LEXIS, News Library, ASTSRP File (reporting on top RMBS underwriters during 2004 and 2005); Allison Pyburn, *US ABS Market Reaches \$1 Trillion Dollar Mark in 2005*, ASSET SECURITIZATION REP., Jan. 9, 2006, available at LEXIS, News Library, ASTSRP File (reporting on top ABS underwriters during 2004 and 2005).

universal banks.¹⁰⁰

Building on their experience with RMBS and consumer ABS, financial conglomerates securitized large amounts of commercial mortgages. The volume of outstanding commercial mortgage-backed securities (CMBS) rose from \$100 billion in 1996 to \$360 billion in 2003 and \$780 billion in 2007.¹⁰¹ Annual issuances of CMBS exceeded \$200 billion in 2006, and again in 2007.¹⁰² Due in substantial part to the rapid growth of CMBS, the total amount of U.S. commercial mortgages rose from \$1.05 trillion in 1996 to \$3.3 trillion in 2007.¹⁰³ The top underwriters of CMBS included Morgan Stanley, Wachovia, BofA, Lehman and Citigroup.¹⁰⁴

Beginning in the late 1980s, universal banks and securities firms began to offer a new type of securitization vehicle known as cash flow collateralized debt obligations (CDOs). Cash flow CDOs are structured-finance entities that issue tranching securities backed by pools of RMBS, other types of ABS and syndicated corporate loans. Cash flow CDOs backed by RMBS and other types of ABS are frequently referred to as “ABS CDOs” and effectively represent a re-securitization of previously securitized debt. In a typical ABS CDO, mezzanine tranches from RMBS or other ABS are pooled together and re-securitized so that most of the tranches of the ABS CDO qualify for “AAA” credit ratings.¹⁰⁵

CDOs backed by syndicated corporate loans are generally referred to

¹⁰⁰ In 2007, the twelve top underwriters of private-label RMBS included the five largest U.S. securities firms (Goldman, Lehman, Merrill, Morgan Stanley and Bear Stearns), the three largest U.S. banks (BofA, Chase and Citigroup), and four large foreign universal banks (Credit Suisse, Deutsche, RBS and UBS). The aggregate share of the private-label RMBS market held by those twelve underwriters exceeded eighty percent. Allen Ferrell et al., *Legal and Economic Issues in Subprime Litigation* (Harvard John Olin Center Discussion Paper 02/2008, Feb. 21, 2008), at 73 tbl.2, available at <http://ssrn.com/abstract=1096582>; see *supra* notes 35 & 49 and accompanying text (identifying the three largest U.S. banks and the four largest U.S. securities firms). Bear Stearns ranked as the fifth largest U.S. securities firm prior to its collapse and acquisition by Chase in 2008. Takahiko Hyuga, *Merrill Lynch's Thain Says Bear Rescue Averted Risk (Update 1)*, BLOOMBERG.COM, Apr. 8, 2008, <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aUL4t3BinRk#>.

¹⁰¹ See 1996 FLOW OF FUNDS REPORT, *supra* note 92, at 77 tbl.L.126 (showing outstanding CMBS backed by multifamily residential mortgages and other commercial mortgages at the end of 1996); 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 79 tbl.L.126 (showing same information at the end of 2003 and 2007).

¹⁰² Gabrielle Stein, *Banks Face Write-downs on CMBS Market Unease*, ASSET SECURITIZATION REP., Mar. 3, 2008, available at LEXIS, News Library, ASTSRP File [hereinafter Stein, *CMBS Market Unease*] (reporting that Morgan Stanley underwrote \$32.4 billion of CMBS that year, accounting for 14.5% of a CMBS market totaling more than \$230 billion); Poonkulali Thangavelu, *Jolt Extends to CMBS/CDOs*, NAT'L MORTGAGE NEWS, Sept. 10, 2007, available at LEXIS, News Library, NMN File (stating that \$203 billion of CMBS was issued in 2006).

¹⁰³ See 1996 FLOW OF FUNDS REPORT, *supra* note 92, at 91 tbl.L.217 (showing outstanding multifamily residential mortgages and other commercial mortgages at the end of 1996); 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 93 tbl.L.217 (showing same information at the end of 2007).

¹⁰⁴ Stein, *CMBS Market Unease*, *supra* note 102 (identifying top underwriters of CMBS during 2007).

¹⁰⁵ Criado & van Rixtel, *supra* note 86, at 23–25; Douglas J. Lucas et al., *Collateralized Debt Obligations and Credit Risk Transfer* (Yale Int'l Ctr. for Fin., Working Paper No. 07-06, 2007), available at <http://ssrn.com/abstract=997276>.

as collateralized loan obligations (CLOs). During 2001–2007, most CLOs were organized as structured-finance vehicles that managed pools of leveraged syndicated loans and sold tranching securities to institutional investors, including insurance companies and asset managers.¹⁰⁶ The rapid growth in CLOs for leveraged loans helped to fuel the spectacular boom in global LBOs during 2004–2007.¹⁰⁷

About \$1.22 trillion of cash flow CDOs were issued in global markets during 2002–2007, of which about fifty-five percent were ABS CDOs and the rest were CLOs.¹⁰⁸ Citigroup, Merrill and Wachovia were the top U.S. managers of ABS CDOs during 2004–2007, and they collectively managed more than \$300 billion of ABS CDOs during that period.¹⁰⁹ The U.S. market was by far the dominant market for CDOs, accounting for about three-quarters of the global issuance of CDOs.¹¹⁰

3. *Over-the-Counter Derivatives and Synthetic CDOs*

Like the securitization markets, markets for OTC derivatives¹¹¹ enjoyed spectacular growth rates after 1990. OTC derivatives are used to manage and transfer risks, and to engage in speculation, with respect to interest rates, currency rates, equity stocks, debt obligations, commodities, and other assets, indices, rates or events.¹¹² The aggregate notional values

¹⁰⁶ 2008 BASEL CRT REPORT, *supra* note 83, at 34–35; *see also* Altman, *supra* note 70, at 24; 2008 CGFS Private Equity Paper, *supra* note 71, at 5, 27–29.

¹⁰⁷ 2008 BASEL CRT REPORT, *supra* note 83, at 34–35; Altman, *supra* note 70, at 24 & n.19; *see also supra* notes 70–73 and accompanying text (discussing LBO boom).

¹⁰⁸ AM. SECURITIZATION FORUM ET AL., RESTORING CONFIDENCE IN THE SECURITIZATION MARKETS 31 exh. 13 (Dec. 3, 2008), *available at* http://www.sifma.org/capital_markets/docs/Survey-Restoring-confidence-securitization-markets.pdf (showing that \$675 billion of ABS CDOs (“structured finance”) and \$543 billion of CLOs were issued in global markets from 2002 through 2007).

¹⁰⁹ *See* Allison Pyburn, *U.S. CDO Market Posts Gains Through 2005*, ASSET SECURITIZATION REP., Jan. 9, 2006 (providing data for 2004 and 2005); Gabrielle Stein, *Market Sees Murky Outlook for U.S. CDOs in 2008*, ASSET SECURITIZATION REP., Jan. 7, 2008 (providing data for 2006 and 2007).

¹¹⁰ *See* SEC. INDUS. & FIN'L MKTS. ASS'N, GLOBAL CDO MARKET ISSUANCE DATA, at “By Currency” tbl., http://www.sifma.org/research/pdf/SIFMA_CDOIssuanceData2008q3.pdf (showing that CDOs denominated in U.S. dollars accounted for about three-quarters of all CDOs issued in global markets from 2005 through 2007).

¹¹¹ A derivative is a financial instrument whose value is derived from a specified asset, index, rate or event, which is referred to as the “underlying.” OTC derivatives are customized contracts, which are individually negotiated between a dealer (usually a large bank or securities firm) and an end-user (usually a smaller financial institution, business firm or institutional investor). In contrast, exchange-traded derivatives are standardized contracts (primarily futures and options) that are traded on organized exchanges regulated by the Commodity Futures Trading Commission (CFTC) and the SEC. *See* René M. Stulz, *Should We Fear Derivatives?*, 18 J. ECON. PERSPECTIVES, Summer 2004, at 173, 173–78 (defining derivatives and discussing forward contracts, options, swaps, derivatives pricing, and derivatives markets); Wilmarth, *supra* note 13, at 332–33 & nn.485–87 (discussing exchange-traded derivatives, OTC derivatives, and their regulation). At the end of 2007, the aggregate notional values of OTC derivatives and exchange-traded derivatives in the global markets were \$595 trillion and \$79 trillion, respectively. BANK FOR INT'L SETTLEMENTS, BIS QUARTERLY REVIEW, A103 tbl.19, A108 tbl.23A (Dec. 2008), *available at* http://www.bis.org/publ/qtrpdf/r_qt0812.htm.

¹¹² Frank Partnoy & David A. Skeel, Jr., *The Promise and Perils of Credit Derivatives*, 75 U. CIN. L. REV. 1019, 1021–24 (2007); Stulz, *supra* note 111, at 180–82 (discussing why firms use derivatives); Wilmarth, *supra* note 13, at 332–33, 337, 352–53.

of outstanding OTC derivatives in global markets increased exponentially during the past two decades, rising from \$7 trillion in 1989 to \$88 trillion in 1999 and \$595 trillion in 2007.¹¹³ Gross market values of OTC derivatives—an alternative measure of their economic significance—are considerably smaller than notional values¹¹⁴ but nevertheless confirm the importance of OTC derivatives. At the end of 2007, the gross market values of outstanding OTC derivatives in global markets were \$16 trillion, equal to one-ninth of the total market values of all outstanding equity and debt securities in worldwide markets.¹¹⁵

Congress has generally exempted OTC derivatives from oversight by the SEC and the CFTC, as long as such derivatives are sold only to institutional investors and sophisticated individuals having a high net worth.¹¹⁶ Approximately three-quarters of OTC derivatives are financial derivatives, a category that includes swaps and forwards on interest rates, currency rates, equities and commodities.¹¹⁷ Federal banking agencies

¹¹³ Wilmarth, *supra* note 13, at 334 n.489 (citing 1989 and 1999 figures); BANK FOR INT'L SETTLEMENTS, *supra* note 111, at A103 tbl.19 (providing 2007 figure).

¹¹⁴ The notional value of a derivative determines the stream of payments that each counterparty is obligated to make under the contract. For example, the notional value of an interest rate swap serves as the multiplier for the fixed or floating interest rate that each party has agreed to pay under the contract. FEIN, *supra* note 14, § 14.05; Wilmarth, *supra* note 13, at 334 n.491. Banks and other public companies are required to disclose both the notional value and the “fair value” of their derivatives under Statement of Financial Accounting Standards (SFAS) Nos. 119 and 133. The disclosure of “fair value” under SFAS No. 133 is based on mark-to-market principles. See Li Wang et al., *The Value-Relevance of Derivatives Disclosures by Commercial Banks: A Comprehensive Study of Information Content Under SFAS Nos. 119 and 133*, 25 REV. QUANTITATIVE FIN. & ACCT. 413, 415–16 (2005) (discussing the history of these SFAS Nos. 119 and 133, and evaluating the usefulness of notional and fair value derivative disclosures); Wilmarth, *supra* note 13, at 473–74 & n.1124 (discussing the application of market-value principles to derivatives). However, SFAS No. 133 has been criticized as being “so . . . complex as to be incomprehensible.” FRANK PARTNOY, *INFECTIOUS GREED: HOW DECEIT AND RISK CORRUPTED THE FINANCIAL MARKETS* 160 (2003); accord, Wang et al., *supra*, at 416 (discussing the complexity of SFAS No. 133 and its notoriety for being highly esoteric).

¹¹⁵ BANK FOR INT'L SETTLEMENTS, *supra* note 111, at A103 tbl.19 (providing figure for OTC derivatives); SEC. INDUS. & FIN. MARKETS ASS'N, *FACT BOOK 2008*, at 78 [hereinafter SIFMA *FACT BOOK 2008*] (reporting that global equity and debt securities had a total market value of \$144 trillion at the end of 2007).

¹¹⁶ See FEIN, *supra* note 14, § 14.01[B] at 14–14, § 14.05 at 14–41 to 14–42; THOMAS LEE HAZEN, *THE LAW OF SECURITIES REGULATION* § 22.7[1] at 529 (5th ed. 2005); PARTNOY, *supra* note 114, at 295; Wilmarth, *supra* note 13, at 333 n.488 (discussing the lack of CFTC and SEC supervisory authority over OTC dealers); U.S. GOV'T ACCOUNTABILITY OFF., *CREDIT DERIVATIVES: CONFIRMATION BACKLOGS INCREASED DEALERS' OPERATIONAL RISKS, BUT WERE SUCCESSFULLY ADDRESSED AFTER JOINT REGULATORY ACTION*, GAO-07-716, at 9–10 (2007), available at <http://www.gao.gov/new.items/d07716.pdf> [hereinafter GAO *CREDIT DERIVATIVES REPORT*] (discussing lack of authority by CFTC and SEC to regulate OTC derivatives).

¹¹⁷ BANK FOR INT'L SETTLEMENTS, *supra* note 111, at A103 tbl.19 (showing that OTC derivatives with a total notional value of \$595 trillion were outstanding at the end of 2007, of which \$462 trillion were financial derivatives, including \$393.1 trillion related to interest rates, \$56.2 trillion related to foreign exchange rates, \$8.5 trillion related to equities and \$8.45 trillion related to commodities). The two most basic types of OTC financial derivatives are forward contracts (including swaps) and option contracts. A forward gives both counterparties reciprocal rights and obligations to buy or sell the underlying at a specified price on a future date. An option gives one counterparty the right (but not the obligation) to purchase from or sell to the other counterparty the underlying at a specified price on a

have authorized banks to offer a wide variety of OTC derivatives to qualified customers.¹¹⁸

Credit derivatives were the fastest-growing category of OTC derivatives during the past decade, rising from only \$180 million in 1997 to \$1 trillion in 2001, \$14 trillion in 2005 and \$58 trillion at the end of 2007.¹¹⁹ Credit derivatives are financial instruments designed to transfer credit risk from one party to another with respect to specified debt obligations.¹²⁰ The most common form of credit derivative is a credit default swap (CDS). A CDS is a contract under which one party (the protection seller) agrees to make a specified payment to the other counterparty (the protection buyer) if a defined credit event occurs on the referenced debt obligation (e.g., a bankruptcy filing or other default on payment by the issuer). In exchange, the protection buyer agrees to pay a periodic fee to the protection seller.¹²¹

The principal types of credit derivatives are single-name CDS, index trades (also known as index CDS), and synthetic CDOs.¹²² A single-name CDS is a swap written with reference to a single issuer of debt. An index trade is a swap written with reference to an index based on a specified group of debt obligations issued by multiple issuers. Debt obligations specified in an index trade are often linked by a common industry, geographic region and/or credit quality (e.g., investment grade or noninvestment grade).¹²³

A synthetic CDO is a structured-finance vehicle that issues securities backed by a managed pool of CDS. A synthetic CDO is similar to a securitization, because it is managed by an SPE and issues tranching securities representing senior, mezzanine and subordinate interests in the managed pool of CDS.¹²⁴ In contrast to a cash flow CDO, a synthetic CDO does not hold the underlying debt obligations but instead holds CDS that

future date. See Frank Partnoy, *The Shifting Contours of Global Derivatives Regulation*, 22 U. PA. J. INT'L ECON. L. 421, 424–28 (2001) (discussing options and forwards); Wilmarth, *supra* note 13, at 333 n.485 (same).

¹¹⁸ See FEIN, *supra* note 14, § 14.05.

¹¹⁹ Kyle Brandon & Frank A. Fernandez, *Financial Innovation and Risk Management: An Introduction to Credit Derivatives*, 15 J. APPLIED FIN. No 1, Spring 2005, at 52, 52, 53 (fig. 1) (providing figures for 1997 and 2001); BANK FOR INT'L SETTLEMENTS, *supra* note 111, at A103 tbl.19 (providing figure for 2007).

¹²⁰ David Mengle, *Credit Derivatives: An Overview*, ECON. REV. (Fed. Res. Bank of Atlanta, GA), 4th Qtr. 2007, at 1.

¹²¹ *Id.* at 1–3; Partnoy & Skeel, *supra* note 112, at 1021–23.

¹²² In 2006, single-name CDS accounted for thirty-three percent of the notional value of outstanding credit derivatives, while index trades and synthetic CDOs accounted for thirty-eight percent and seventeen percent, respectively. Criado & van Rixtel, *supra* note 86, at 30–37; Mengle, *supra* note 120, at 7–8.

¹²³ GAO CREDIT DERIVATIVES REPORT, *supra* note 116, at 5, 6 tbl.1; Criado & van Rixtel, *supra* note 86, at 34–35, 42.

¹²⁴ Criado & van Rixtel, *supra* note 86, at 37–38 (fig.8); Gorton, *supra* note 87, at 26–29; Partnoy & Skeel, *supra* note 112, at 1027–29.

provide credit protection for the designated obligations.¹²⁵ Recent estimates indicate that synthetic CDOs hold pools of CDS with several trillion dollars of notional value.¹²⁶

Large financial conglomerates dominate the markets for OTC derivatives in the same manner as they control other sectors of the financial markets. In 2006, the twenty top global derivatives dealers included the top eleven global underwriters listed above as well as Bear Stearns and several large foreign universal banks (including Société Générale, BNP Paribas, RBS and HSBC).¹²⁷ During 2003–2006, the twenty largest global counterparties for CDS included almost all of the same institutions and American International Group (AIG).¹²⁸

D. *Rising Levels of Systemic Risk in Domestic and Global Financial Markets*

1. *The Adverse Impact of Financial Conglomeration on Systemic Risk in Financial Markets*

Consolidation and convergence among financial conglomerates after 1990 produced a significant increase in systemic risk in both U.S. and global financial markets. By 2007, as shown above in Part II.C., sixteen large complex financial institutions (LCFIs)—including the four largest U.S. banks (BofA, Chase, Citigroup and Wachovia), the five largest U.S. securities firms (Bear Stearns, Goldman, Lehman, Merrill and Morgan Stanley), and seven major foreign universal banks (Credit Suisse, Deutsche, Barclays, RBS, HSBC, BNP Paribas and Societe Generale)—collectively dominated the markets for debt and equity securities, syndicated loans, securitizations, structured-finance products and OTC

¹²⁵ Criado & van Rixtel, *supra* note 86, at 37.

¹²⁶ See GAO CREDIT DERIVATIVES REPORT, *supra* note 116, at 6 tbl.1, 7 fig.1 (stating that, at the end of 2006, synthetic CDOs represented sixteen percent of the global credit derivatives market and the global market had an aggregate notional value of \$34.5 trillion); see also Neil Shah, *Trouble for Banks, Insurers May Lurk in Synthetic CDOs*, WALL ST. J., Oct. 21, 2008, at C1, available at LEXIS, News Library, WSJNL File (reporting that, “[b]y various estimates, [synthetic CDOs] have sold insurance on the equivalent of between \$1.25 trillion and \$6 trillion in bonds”).

¹²⁷ Gareth Gore, *Special Report: Institutional Investor End-User Survey 2006; Steady at the Top*, 19 RISK, No. 6, June 2006, at 62, 63 (“Top 20 Dealers Overall” tbl.); see also *supra* notes 57–61 and accompanying text (identifying the top eleven global underwriters between 2000 and 2007).

¹²⁸ Mengle, *supra* note 120, at 10 tbl.4; see also Timothy F. Geithner, Remarks at the Economic Club of New York (June 9, 2008), available at <http://www.newyorkfed.org/newsevents/speeches/2008/tfg080609.html> (stating that the Federal Reserve Bank of N.Y. had met with seventeen dealer institutions, which controlled more than ninety percent of the credit derivatives market); Press Release, Fed. Res. Bank of N.Y., Statement Regarding June 9 Meeting on Over-the-Counter Derivatives (June 9, 2008), available at <http://www.newyorkfed.org/newsevents/news/markets/2008/ma080609.html> (providing weblink to list of seventeen dealers, which included the top eleven global underwriters as well as BNP Paribas, Dresdner Kleinwort, HSBC, RBS, Societe Generale and Wachovia).

derivatives.¹²⁹ In addition, AIG—the largest U.S. life insurer and the second largest U.S. property and casualty insurer—established a “Financial Products” business group that became a leading provider of CDS and securities lending services.¹³⁰

LCFIs followed a common business strategy based on an “originate to distribute” (OTD) model. As further described below in Part III, the OTD strategy consisted of several steps, including (i) originating consumer and corporate loans, (ii) packaging those loans into structured-finance ABS and CDOs, (iii) creating additional financial instruments, including synthetic CDOs and CDS, whose values were derived in complex ways from the underlying loans, and (iv) distributing the resulting securities and other financial instruments to investors and off-balance-sheet entities sponsored by the selling institution.¹³¹

LCFIs adopted the OTD business model in order to (i) maximize fee income, (ii) reduce their capital charges, and (iii) transfer to investors (at least ostensibly) the risks associated with securitized loans and structured-finance products. The OTD model enabled LCFIs to collect fees at each stage of the OTD process, including (a) originating, securitizing and servicing loans, and (b) structuring and selling additionally securities and other financial instruments (e.g., cash flow CDOs, synthetic CDOs and CDS) based on those loans.¹³² Fee income at the largest U.S. banks (including BofA, Chase and Citigroup) rose from 40% of total earnings in 1995 to 76% of total earnings in 2007.¹³³

The OTD strategy also enabled financial conglomerates to reduce their capital requirements.¹³⁴ Perhaps most importantly, the OTD approach also offered financial conglomerates the apparent benefit of shifting to investors

¹²⁹ See *supra* notes 57–61, 66–70, 99–100, 104, 109, 127–28 and accompanying text (identifying the top global underwriters of debt and equity securities, the leading syndicated lenders, the major underwriters of private label RMBS, ABS, CMBS and CDOs, and the top dealers in OTC derivatives).

¹³⁰ See *American International Group: Hearing Before the Comm. on Banking, Housing, and Urban Affairs*, 111th Cong. (2009), available at <http://www.federalreserve.gov/newsevents/testimony/kohn20090305a.htm> (testimony of Donald L. Kohn, FRB Vice Chairman); Carol J. Loomis, *AIG: The Company That Came to Dinner*, FORTUNE, Jan. 19, 2009, at 70; Gretchen Morgenson, *A.I.G.: Where Taxpayers' Dollars Go to Die*, N.Y. TIMES, Mar. 8, 2009, § BU, at 1; Robert O'Harrow Jr. and Brady Dennis, *Downgrades and Downfall*, WASH. POST, Dec. 31, 2008, at A01.

¹³¹ See, e.g., Antje Berndt & Anurag Gupta, *Moral Hazard and Adverse Selection in the Originate-to-Distribute Model of Bank Credit* 1–2 (Working Paper, Nov. 2008) available at <http://ssrn.com/abstract=1290312>; Borio, *supra* note 98, at 9–13; Amiyatosh K. Purnanandam, *Originate-to-Distribute Model and the Sub-Prime Mortgage Crisis* 1–6 (Working Paper, Feb. 8, 2009), available at <http://ssrn.com/abstract=1167786>; 2008 BASEL CRT REPORT, *supra* note 83, at 2, 7–8, 25–27, 41–42, 45.

¹³² 2008 BASEL CRT REPORT, *supra* note 83, at 2, 7–8, 25–27, 41–42; see *supra* Parts II.C.2. & II.C.3.

¹³³ Tom Lauricella, *Crumbling Profit Center: Financial Sector Showing Life, but Don't Bank on Long-Term Revival*, WALL ST. J., Mar. 24, 2008, at C1, available at LEXIS, News Library, WSJNL File.

¹³⁴ See *supra* note 81 and accompanying text; *infra* notes 317, 337 and 339 and accompanying text.

the risks associated with securitized loans and other structured finance products.¹³⁵ However, as large financial conglomerates pursued similar OTD and fee-maximizing strategies, their collective exposures to financial risks—including credit risk, liquidity risk, market risk and systemic risk—increased dramatically.¹³⁶

Even before the subprime lending boom accelerated in 2004, analysts found that an increased reliance by U.S. banking organizations on nontraditional, fee-based lines of business (including securitization and other investment banking activities) increased the volatility of their earnings and increased their exposure to the risk of insolvency.¹³⁷ One study concluded that, between 2001 and 2004, an increased involvement by large U.S. banks in investment banking, securitization, and sales of loans, derivatives and other assets produced a significant rise in the overall risk of those banks, as measured by the volatility of their stock market returns.¹³⁸

Other studies determined that consolidation and conglomeration in the U.S. and European banking industries generated higher levels of systemic risk on both sides of the Atlantic.¹³⁹ In particular, analysts found that growing convergence among the activities of banks, securities firms and insurance companies since the early 1990s intensified the risk that losses in one sector of the financial services industry would spill over into other sectors and produce a systemic financial crisis.¹⁴⁰

¹³⁵ 2008 BASEL CRT REPORT, *supra* note 83, at 41–42; Borio, *supra* note 98, at 4, 10–11.

¹³⁶ See, e.g., Brunnermeier, *supra* note 3, at 77–82; Raghuram G. Rajan, *Has Finance Made the World Riskier?*, 12 EUR. FIN. MGMT. 499, 502, 508–24 (2006); 2008 BASEL CRT REPORT, *supra* note 83, at 25–27; see also *infra* Parts III.B.3. and III.C.

¹³⁷ See generally Robert DeYoung & Tara Rice, *Noninterest Income and Financial Performance at U.S. Commercial Banks*, 39 FIN. REV. 101 (2004) (reviewing performance by U.S. banks during 1989–2001); Kevin Stiroh, *New Evidence on the Determinants of Bank Risk*, 30 J. FIN. SERV. RES. 237 (2006) (studying the performance of U.S. bank holding companies during 1997–2004); Kevin Stiroh & Adrienne Rumble, *The Dark Side of Diversification: The Case of US Financial Holding Companies*, 30 J. BANKING & FIN. 2131 (2006) (reviewing performance of U.S. financial holding companies during from 1997 through 2002).

¹³⁸ Stiroh, *supra* note 137, at 237–39, 252–59.

¹³⁹ See generally Gianni De Nicoló & Myron L. Kwast, *Systemic Risk and Financial Consolidation: Are They Related?*, 26 J. BANKING & FIN. 861 (2002) (studying performance of U.S. large complex banking organizations (LCBOs) from 1988 through 1999); Gianni De Nicoló et al., *Bank Consolidation, Internationalization, and Conglomeration: Trends and Implications for Financial Risk*, 13 FIN. MKTS, INSTS. & INSTRUMENTS 173, 174–76, 189–90, 198, 205–12 (2004) (reviewing performance of the world's 500 largest financial institutions from 1993 through 2000); Martin Schüller, *The Threat of Systemic Risk in European Banking*, 41 Q. J. BUS. & ECON. 145 (2002) (reviewing performance of the largest European banks from 1980 through 2001, and determining that interconnections among European banks increased significantly between 1986 and 2001, resulting in a greater potential for systemic risk).

¹⁴⁰ De Nicoló et al., *supra* note 139, at 174–76, 189–90, 197–98, 205–12 (analyzing growing conglomeration and increased systemic risk in banking systems of the U.S., Western Europe and other developed countries from 1993 through 2000); Elyasiani et al., *supra* note 56, at 1168–69, 1186–87 (reviewing performance of U.S. banks, securities firms and life insurers from 1991 through 2001); Houston & Stiroh, *supra* note 56, at 1–4, 9–10, 17–22, 31–32 (analyzing performance of same three groups of financial institutions from 1975 through 2005 and determining that systemic risk in the U.S.

A recent comprehensive study reviewed the performance of more than 1,300 banks (including commercial and investment banks) in 101 countries between 1995 and 2007. The authors found that larger and faster-growing banks had a greater involvement in nontraditional activities, produced higher percentages of fee income, and relied more heavily on wholesale (non-deposit) funding. In addition, banks with higher shares of fee income and wholesale lending also showed significantly higher risks of insolvency.¹⁴¹ The authors concluded that “banking strategies that rely preponderantly on non-interest income or non-deposit funding are indeed very risky.”¹⁴²

2. *The Unheeded Lessons of the Dotcom-Telecom Bubble and the Collapse of Enron and WorldCom*

Further evidence of the risks posed by financial conglomerates appeared during the boom-and-bust cycle that occurred in the U.S. economy from 1994 through 2002. In future work, I intend to undertake a more detailed analysis of the role played by universal banks during that period, which witnessed the rise and fall of many Internet (“dotcom”) and telecommunications (“telecom”) firms.¹⁴³ For present purposes, this Article provides a brief overview of the conflicts of interest, promotional pressures, speculative risk-taking and exploitation of investors that many financial conglomerates displayed during the dotcom-telecom episode.¹⁴⁴

As described above, the relaxation and removal of Glass-Steagall barriers enabled large commercial banks to become major players in the investment banking business after 1990.¹⁴⁵ Intensifying competition between commercial banks and securities firms stimulated a spectacular growth in the issuance of corporate securities during the late 1990s. Total underwritings and private placements of corporate securities in U.S. financial markets almost quadrupled, from \$600 billion to \$2.2 trillion,

financial sector increased significantly during that period, because “financial firms bec[a]me more similar and increasingly exposed to common shocks,” including a “series of broad shocks . . . that had a large common impact” on all three sectors after 1997, *id.* at 2, 31).

¹⁴¹ Asli Demirguc-Kunt & Harry Huizinga, *Bank Activity and Funding Strategies: The Impact on Risk and Return* 5–7, 10–11, 14–24, 27–29 (CentER Discussion Paper No. 2009–09, Jan. 2009), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1350235.

¹⁴² *Id.* at 29.

¹⁴³ For insightful overviews of the dotcom-telecom boom and bust, see generally ROGER LOWENSTEIN, *ORIGINS OF THE CRASH: THE GREAT BUBBLE AND ITS UNDOING* (2004); PARTNOY, *supra* note 114; JOSEPH E. STIGLITZ, *THE ROARING NINETIES: A NEW HISTORY OF THE WORLD’S MOST PROSPEROUS DECADE* (2003).

¹⁴⁴ Portions of the discussion in this section are adapted from Arthur E. Wilmarth, Jr., *Conflicts of Interest and Corporate Governance Failures at Universal Banks during the Stock Market Boom of the 1990s: The Cases of Enron and WorldCom*, in *CORPORATE GOVERNANCE IN BANKING: A GLOBAL PERSPECTIVE* 97 (Benton E. Gup, ed., 2007) [hereinafter Wilmarth, *Enron and WorldCom*].

¹⁴⁵ See *supra* Parts II.A., II.B (explaining legal developments that relaxed and ultimately repealed restrictions in the Glass-Steagall Act, resulting in increased convergence and competition between the banking and securities industries during the 1990s).

between 1994 and 2001.¹⁴⁶ Initial public offerings (IPOs) of stocks soared from \$28 billion in 1994 to \$64 billion in 1999 and \$76 billion in 2000.¹⁴⁷

The onrush of newly-issued securities contributed to a stock market boom from 1994 to 2000, comparable to the great bull market of 1923 to 1929. Unfortunately, the stock market boom of the 1990s was followed by a rapid decline in stock prices between 2000 and 2002. During that decline, the total value of all publicly traded U.S. stocks fell by forty-five percent, from \$17.2 trillion to \$9.4 trillion, representing the largest percentage drop in stock values since the stock market's collapse between 1929 and 1932.¹⁴⁸

The steep drop in stock prices accelerated between December 2001 and October 2002, as investors reacted to reports of accounting fraud and self-dealing at many "new economy" firms that had been viewed as "stars" during the stock market boom of the 1990s.¹⁴⁹ The sudden collapses of Enron and WorldCom were especially shocking to investors. With assets of \$63 billion and \$104 billion, respectively, Enron and WorldCom represented the largest U.S. corporate bankruptcies prior to Lehman's collapse in September 2008.¹⁵⁰ Enron was widely viewed as the most innovative and exciting company in America, due in large part to its aggressive expansion into broadband services and its position as one of the largest traders of derivatives for energy products and other commodities.¹⁵¹ WorldCom was considered to be the most promising telecom firm because of its rapid growth, as well as its status as the second largest long-distance telephone company and the largest provider of Internet-based telecommunications services in America.¹⁵²

Enron and WorldCom failed because each company's leaders pursued a single-minded policy of boosting the company's stock price at all costs.

¹⁴⁶ SIFMA FACT BOOK 2008, *supra* note 115, at 10.

¹⁴⁷ *Id.* at 9.

¹⁴⁸ Robert J. Gordon, *The 1920s and the 1990s in Mutual Reflection*, in *THE GLOBAL ECONOMY IN THE 1990S: A LONG RUN PERSPECTIVE* 161, 164, 168–71, 182–83 (Paul W. Rhode & Gianni Toniolo, eds., 2006); Eugene N. White, *Bubbles and Busts: The 1990s in the Mirror of the 1920s*, in *THE GLOBAL ECONOMY IN THE 1990S: A LONG RUN PERSPECTIVE*, *supra*, at 193, 193–202; BD. OF GOVERNORS OF THE FED. RESERVE SYS., FED. RES. STATISTICAL RELEASE: FLOW OF FUNDS ACCOUNTS OF THE UNITED STATES, FOURTH QUARTER 2003, at 90 tbl.L.213 (2004) (showing that the market value of domestic corporations declined from \$17.2 trillion at the end of 1999 to \$9.4 trillion as of September 30, 2002); Wilmarth, *Universal Banks*, *supra* note 26, at 559.

¹⁴⁹ See, e.g., Anthony Bianco, *The Angry Market*, *BUS. WK.*, July 29, 2002, at 32, available at LEXIS, News Library, BUSWK File; E.S. Browning & Ianthe J. Dugan, *Stocks Unwound: Aftermath of a Market Mania*, *WALL ST. J.*, Dec. 16, 2002, at C1, available at LEXIS, News Library, WSJNL File; Marcia Vickers et al., *The Betrayed Investor*, *BUS. WK.*, Feb. 25, 2002, at 104, available at LEXIS, News Library, BUSWK File.

¹⁵⁰ Aigbe Akhigbe et al., *Contagion Effects of the World's Largest Bankruptcy: The Case of WorldCom*, 45 Q. REV. ECON. FIN. 48, 49 (2005); Yalman Onaran & Christopher Scinta, *Lehman Files Biggest Bankruptcy Case as Suitors Balk (Update 4)*, Sept. 15, 2008, BLOOMBERG.COM, <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a82CD70MEtWM>.

¹⁵¹ Wilmarth, *Enron and WorldCom*, *supra* note 144, at 100–02.

¹⁵² *Id.* at 112–13.

Senior officers at each company pushed subordinates to produce continuous growth in assets, revenues and earnings per share, while paying little attention to the fundamental quality of the company's operations. When real growth could no longer be sustained, management resorted to fraud.¹⁵³

Although senior executives were the primary culprits at Enron and WorldCom, financial conglomerates were instrumental in financing the reckless growth of each company. During 1998–2001, Citigroup, Merrill, Credit Suisse, Chase, Barclays, Lehman and BofA underwrote several billion dollars of securities for Enron.¹⁵⁴ During the same period, Citigroup, Chase, BofA and Deutsche were leading underwriters for \$25 billion of WorldCom bonds. Citigroup and Chase were also principal financial advisors for WorldCom acquisitions in which WorldCom issued more than \$55 billion of its stock to shareholders of acquired firms.¹⁵⁵

Universal banks also orchestrated a myriad of complex transactions that aided and abetted Enron's efforts to mislead investors. For example, Citigroup, Chase, Barclays, Credit Suisse and RBS structured prepaid commodity swaps ("prepays") that allowed Enron to receive disguised bank loans while reporting the transactions as cash flow from operations. The same banks and Merrill structured fictitious sales of assets by Enron to off-balance-sheet SPEs that were actually controlled by a senior Enron officer. Like the prepays, the SPE transactions enabled Enron to overstate its cash flow and disguise its debt. By the time of its failure in late 2001, Enron had accumulated \$38 billion of actual debt obligations but reported only \$13 billion of those debts on its balance sheet.¹⁵⁶ The banks participated in Enron's prepay and SPE deals even though many bank officers recognized that the transactions were inherently deceptive.¹⁵⁷

Universal banks did not participate directly in WorldCom's massive accounting fraud. However, the banks underwrote a \$12 billion public offering of WorldCom's bonds in 2001 while knowing, or having reason to know, that WorldCom was encountering serious financial difficulties.¹⁵⁸ In order to win WorldCom's business, Citigroup, Chase and BofA provided huge financial benefits (in the form of personal loans and allocations of shares in underpriced "hot" IPOs) to Bernard Ebbers, WorldCom's chairman.¹⁵⁹ Moreover, universal banks that dealt with Enron and

¹⁵³ *Id.* at 100–03, 112–15.

¹⁵⁴ *Id.* at 110.

¹⁵⁵ *Id.* at 116, 118–19.

¹⁵⁶ *Id.* at 103–07. In addition, Deutsche structured SPE transactions in order to create fictitious tax benefits for Enron. *Id.* at 107.

¹⁵⁷ *Id.* at 107–10.

¹⁵⁸ *Id.* at 115–16, 118–19. Three of the bank underwriters quietly entered into CDS to reduce their credit exposure to WorldCom while the debt offering was in progress. *Id.* at 118–19.

¹⁵⁹ *Id.* at 116–18.

WorldCom pressured their investment analysts to keep issuing glowing reports about both companies until just before the companies failed.¹⁶⁰ In several cases, the banks quietly entered into CDS and other transactions to reduce their credit exposure to Enron and WorldCom while their analysts and investment bankers were still touting the companies' stock.¹⁶¹

Universal banks paid more than \$17 billion to settle Enron-related and WorldCom-related claims filed by the SEC, investors and Enron's bankruptcy estate.¹⁶² Federal and state agencies also conducted investigations that resulted in the issuance of enforcement orders and penalty assessments against universal banks for a wide range of additional misconduct related to their securities activities during the dotcom-telecom boom and bust. Those investigations revealed that LCFIs promoted (i) conflicts of interest involving securities analysts, (ii) manipulative and abusive practices connected with IPOs, and (iii) late trading, market timing and other abuses involving mutual funds.¹⁶³

For example, universal banks pressured in-house analysts to issue biased and misleading reports to investors in order to please corporate clients and attract new investment banking deals (especially IPOs).¹⁶⁴ Bank underwriters also made targeted allocations of underpriced shares in "hot" IPOs—a practice known as "spinning"—in order to (i) build relationships with senior executives who controlled existing or potential corporate clients, and (ii) persuade institutional investors to (A) make investments in future IPOs and (B) give future brokerage business to the underwriters.¹⁶⁵ Banks also allowed hedge funds to engage in unlawful market timing and late trading in bank-sponsored mutual funds, in return

¹⁶⁰ *Id.* at 110–12, 119–24.

¹⁶¹ *Id.* at 110–12, 118–20.

¹⁶² *See id.* at 112 (stating that banks paid almost \$400 million to settle Enron-related charges filed by the SEC and paid an additional \$6.9 billion to settle Enron-related claims filed by investors); *id.* at 124 (stating that banks paid \$6.6 billion to settle claims filed by investors in WorldCom debt); Eric Dash, *Citigroup Resolves Claims That It Helped Enron Deceive Investors*, N.Y. TIMES, Mar. 27, 2008, at C3 available at LEXIS, News Library, NYT File (reporting that banks paid \$3.4 billion to settle claims filed by Enron's bankruptcy estate).

¹⁶³ Wilmarth, *Universal Banks*, *supra* note 26, at 562–63.

¹⁶⁴ *See, e.g.*, JOHN C. COFFEE, JR., GATEKEEPERS: THE PROFESSIONS AND CORPORATE GOVERNANCE 30–32, 249–53, 257–58, 261–70 (2006); DAVID SKEEL, ICARUS IN THE BOARDROOM: THE FUNDAMENTAL FLAWS IN CORPORATE AMERICA AND WHERE THEY CAME FROM 167–70, 180–85 (2005) (describing the corporate culture that caused analysts to issue misleading reports); PARTNOY, *supra* note 143, at 275–91.

¹⁶⁵ *E.g.*, James Fanto, *The Continuing Need for Broker-Dealer Professionalism in IPOs*, 2 ENTREPRENEURIAL BUS. L. J. 679, 680–90 (2008); Christine Hurt, *Moral Hazard and the Initial Public Offering*, 26 CARDOZO L. REV. 711, 738–42 (2005); *see also* Tim Loughran & Jay Ritter, *Why Has IPO Underpricing Changed Over Time?*, 33 FIN. MGMT. 5, 6–7, 31–32 (2004) (finding that, during the Internet boom of 1999 to 2000, issuers of IPOs chose underwriters that (i) offered coverage by "influential" and "bullish" analysts, and (ii) allocated shares of underpriced IPOs to the issuers' corporate executives); Jonathan Reuter, *Are IPO Allocations for Sale? Evidence from Mutual Funds*, 61 J. FIN. 2289, 2290–93, 2322–23 (2006) (finding that, from 1996 to 1999, mutual funds paid significantly larger brokerage commissions to investment banks from which they received allocations of underpriced shares in IPOs).

for the hedge funds' agreement to (i) make long-term investments in the funds and (ii) use the banks' brokerage services.¹⁶⁶

Twelve banks paid \$1.4 billion to settle government accusations of illegal activities related to research analysts and IPOs.¹⁶⁷ Seven banks paid nearly \$1.2 billion to settle government charges that they allowed unlawful late trading and market timing in mutual funds.¹⁶⁸ Two very disturbing patterns emerge when one compares the identities of the banks involved in the scandals involving research analysts, IPOs and mutual funds with the names of the banks most deeply embroiled with Enron and WorldCom. First, thirteen out of the sixteen leading global financial conglomerates in 2007 were involved in at least one of the scandals.¹⁶⁹ Second, eleven of those thirteen LCFIs were involved in multiple scandals.¹⁷⁰

Thus, leading financial conglomerates were involved in numerous scandals during the dotcom-telecom boom-and-bust cycle. Those scandals revealed widespread abuses that resulted from conflicts of interest, promotional pressures, speculative financing and exploitation of investors—the same types of misconduct that caused Congress to separate

¹⁶⁶ Banks allowed market timing and late trading by hedge funds in order to (i) solicit prime brokerage business from hedge funds, and (ii) to make up for the loss of mutual fund assets and brokerage activity that resulted from the bursting of the dotcom-telecom bubble in the stock market. See James B. McCallum, *Mutual Fund Market Timing: A Tale of Systemic Abuse and Executive Malfeasance*, 12 J. FIN. REG. & COMPLIANCE 170, 172–77 (2004). For additional analysis of market timing and late trading abuses, see Paul G. Mahoney, *Manager-Investor Conflicts in Mutual Funds*, 18 J. ECON. PERSPECTIVES 161, 161–62, 173–77 (2004); see also William B. Birdthistle, *Compensating Power: An Analysis of Rents and Rewards in the Mutual Fund Industry*, 80 TUL. L. REV. 1401, 1405–07, 1453–60 (2006); Tamar Frankel & Lawrence A. Cunningham, *The Mysterious Ways of Mutual Funds: Market Timing*, 25 ANN. REV. BANKING & FIN. L. 235, 248–69 (2006).

¹⁶⁷ See Rachel McTague & Kip Betz, *Research Analysts: Federal, State Securities Regulators, NYSE, NASD, Spitzer Finalize Wall Street Settlement*, 35 SEC. REG. & L. REP. 730 (May 5, 2003) (reporting government settlements with Bear Stearns, Chase, Citigroup, Credit Suisse, Goldman, Lehman, Merrill, Morgan Stanley, Chase, UBS and US Bancorp); Valerie Bauerlein & Siobhan Hughes, *Moving the Market: Improper-Trading Case Settled—Bank of America to Pay \$26 Million Over Claims Research Was Misused*, WALL ST. J., Mar. 15, 2007, at C3, available at LEXIS, News Library, WSJNL file (reporting on government settlement with BofA arising out of misconduct during 2002).

¹⁶⁸ See Thomas R. Smith, Jr., *Mutual Funds Under Fire: A Chronology of Developments Since January 1, 2003*, 7 J. INV. COMPLIANCE 4, 19, 22, 32 (2006) (describing (i) agreement by BofA and FleetBoston to pay \$675 million to settle market timing and late trading charges, (ii) agreement by Bank One to pay \$50 million to settle similar charges, and (iii) agreements by UBS and Deutsche to pay almost \$190 million); BOA, *FleetBoston Agree on \$675 Million to Resolve SEC, N.Y. Charges Over Abuses*, 36 SEC. REG. & L. REP. 513, Mar. 22, 2004 (reporting on settlement agreement involving BofA and FleetBoston); Randall Smith & Tom Lauricella, *Moving the Market: Bear Stearns to Pay \$250 Million Fine*, WALL ST. J., Mar. 17, 2006, at C3, available at LEXIS, News Library, WSJNL file (reporting that (i) Bear Stearns agreed to pay \$250 million to settle market-timing and late-trading charges, and (ii) Merrill paid almost \$14 million to settle similar accusations).

¹⁶⁹ See *supra* notes 129, 154–68 and accompanying text (showing that, of the sixteen LCFIs, all but HSBC, BNP Paribas and Societe Generale were involved in at least one scandal).

¹⁷⁰ See *supra* notes 129, 154–68 and accompanying text (showing that, of the thirteen implicated LCFIs, all but Goldman and Morgan Stanley were involved in two or more scandals).

commercial and investment banking in 1933.¹⁷¹ Nevertheless, Congress did not reconsider the question of whether large financial conglomerates threatened the stability of the financial markets and the general economy. Political leaders assumed that federal regulators and market discipline would exercise sufficient control over the growing power of universal banks. However, the events of 1994–2002 plainly indicated that neither regulators nor the financial markets were imposing effective restraints on the penchant of LCFIs to assume ever-greater risks in the pursuit of profit.¹⁷²

III. UNIVERSAL BANKS WERE THE PRIMARY PRIVATE-SECTOR CATALYSTS FOR THE SUBPRIME FINANCIAL CRISIS

A. *An Unsustainable Credit Boom Occurred in the U.S. Between 1991 and 2007*

1. *The Magnitude of the Credit Boom*

Between 1991 and 2007, the United States experienced an enormous credit boom. Credit market debts owed by all sectors of the U.S. economy more than tripled during that period, rising from \$14.1 trillion in 1991 to \$46.9 trillion in 2007.¹⁷³ Nongovernmental domestic debts nearly quadrupled and rose by \$29.6 trillion, accounting for ninety percent of the overall debt growth.¹⁷⁴ Within the nongovernmental category, household sector debts more than tripled, rising by \$10 trillion,¹⁷⁵ and nonfinancial business debts nearly tripled, growing by \$6.4 trillion.¹⁷⁶ The most

¹⁷¹ See, e.g., ROBERT KUTTNER, *THE SQUANDERING OF AMERICA: HOW THE FAILURE OF OUR POLITICS UNDERMINES OUR PROSPERITY* 72–85, 90–91, 101–05 (2007); LOWENSTEIN, *supra* note 143, at 4–5, 95–97, 154–55, 174–75, 208, 212–13, 218–19; STIGLITZ, *supra* note 143, at 140–41, 158–60; Wilmarth, *Universal Banks*, *supra* note 26, at 560.

¹⁷² See, e.g., CHARLES R. MORRIS, *THE TWO TRILLION DOLLAR MELTDOWN* 31–35, 54–55 (2008 rev. ed.); STIGLITZ, *supra* note 143, at 60–66, 275–76; Wilmarth, *supra* note 13, at 454–76; Wilmarth, *Enron and WorldCom*, *supra* note 144, at 99–100, 124–25.

¹⁷³ See 1996 FLOW OF FUNDS REPORT, *supra* note 92, at 57 tbl.L.1., lines 2 & 11 (providing amount for year-end 1991); 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 58 tbl.L.1., lines 2 & 10 (providing data for year-end 2007). Total U.S. debt increased from 225% of GDP in 1992 to 325% of GDP in 2007. WILLIAM A. FLECKENSTEIN & FREDERICK SHEEHAN, *GREENSPAN'S BUBBLES: THE AGE OF IGNORANCE AT THE FEDERAL RESERVE* 174 (fig. 16) (2008).

¹⁷⁴ Domestic nongovernmental debts grew from \$10.3 trillion to \$39.9 trillion between 1991 and 2007. See 1996 FLOW OF FUNDS REPORT, *supra* note 92, at 57 tbl.L.1., line 4 plus line 11, minus line 9 (providing figure for year-end 1991); 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 58 tbl.L.1., line 2 plus line 10, minus lines 8 and 9 (providing amount for year-end 2007).

¹⁷⁵ Household sector debts increased from \$3.8 trillion to \$13.8 trillion between 1991 and 2007. See 1996 FLOW OF FUNDS REPORT, *supra* note 92, at 57 tbl.L.1., line 5 (providing amount for year-end 1991); 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 58 tbl.L.1., line 3 (providing data for year-end 2007).

¹⁷⁶ Nonfinancial business debts rose from \$3.7 trillion to \$10.1 trillion between 1991 and 2007. See 1996 FLOW OF FUNDS REPORT, *supra* note 92, at 57 tbl.L.1., lines 6, 7 and 8 (providing amount for year-end 1991); 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 58 tbl.L.1., lines 4, 5 and 6 (providing figure for year-end 2007).

dramatic growth, however, occurred with financial sector debts, which recorded more than a five-fold increase and expanded by \$13 trillion.¹⁷⁷

The credit boom growth accelerated at an even faster rate after 2000.¹⁷⁸ Two-thirds of the rise in household sector debts between 1991 and 2007 occurred after 2000.¹⁷⁹ Similarly almost early three-fifths of the growth in both nonfinancial business debts and financial sector debts took place between 2000 and 2007.¹⁸⁰

The rapidly growing significance of the U.S. financial services industry provides further evidence of the impact of the credit boom. The financial services industry's share of total domestic corporate profits rose "from 10% in the early 1980s to 40% at its peak" in 2007, and the industry's "share of stockmarket value grew from 6% to 19%."¹⁸¹ During the decade ending in 2006, "profits at financial companies rose an average of 13.8% a year, compared with 8.5% for nonfinancial companies."¹⁸² Between 1980 and 2007, domestic financial assets doubled in size relative to domestic GDP, largely as a result of expanding debt obligations.¹⁸³

This Article focuses primarily on U.S. aspects of the global financial

¹⁷⁷ Financial sector debts grew from \$2.8 trillion to \$15.8 trillion between 1991 and 2007. See 1996 FLOW OF FUNDS REPORT, *supra* note 92, at 57 tbl.L.1, line 11 (providing amount for year-end 1991); 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 58 tbl.L.1, line 10 (providing figure for year-end 2007).

¹⁷⁸ FLECKENSTEIN & SHEEHAN, *supra* note 173, at 168–78; see also *id.* at 175 (fig. 17) (describing the rate of debt growth versus GDP growth between 2002 and 2007 as "The Most Pronounced Debt Cycle Ever").

¹⁷⁹ Household sector debts rose by \$6.7 trillion (from \$7.1 trillion to \$13.8 trillion) between 2000 to 2007. See BD. OF GOVERNORS OF FED. RES. SYS., FLOW OF FUNDS ACCOUNTS OF THE UNITED STATES, 4TH QTR. 2002, STATISTICAL REL. Z.1, at 58 tbl.L.1, line 5 [hereinafter 2002 FLOW OF FUNDS REPORT] (providing amount for year-end 2000); 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 58 tbl.L.1, line 3 (providing figure for year-end 2007).

¹⁸⁰ Nonfinancial sector debts rose by \$3.6 trillion (from \$6.5 trillion to \$10.1 trillion) between 2000 and 2007. See 2002 FLOW OF FUNDS REPORT, *supra* note 179, at 58 tbl.L.1, lines 6, 7 and 8 (providing figure for year-end 2000); 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 58 tbl.L.1, lines 4, 5 and 6 (providing amount for year-end 2007). Financial sector debts rose by \$7.4 trillion (from \$8.4 trillion to \$15.8 trillion) between 2000 and 2007. See 2002 FLOW OF FUNDS REPORT, *supra* note 179, at 58 tbl.L.1, line 11 (providing data for end of 2000); 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 58 tbl.L.1, line 10 (providing information for end of 2007).

¹⁸¹ *What Went Wrong—Wall Street's Crisis; The Financial System*, ECONOMIST, Mar. 22, 2008, at 91, available at LEXIS, News Library, ECON File [hereinafter *What Went Wrong*]. For additional data about the growth of the U.S. financial sector in recent decades, see Justin Lahart, *Has the Financial Industry's Heyday Come and Gone?*, WALL ST. J., Apr. 28, 2008, at A2, available at LEXIS, News Library, WSJNL File (reporting that domestic financial-sector profits as a percentage of total pretax profits grew from thirteen percent in 1980 to twenty-seven percent in 2007); Lauricella, *supra* note 133 (reporting that financial industry stocks accounted for 22.3% of the value of the Standard & Poor's 500-stock index at the end of 2006, compared to thirteen percent at the end of 1995); Gretchen Morgenson, *There's No Superhero in the Wings*, N.Y. TIMES, Nov. 11, 2007, § 3, at 1, available at LEXIS, News Library, NYT File (reporting that financial sector profits accounted for thirty-one percent of total U.S. corporate earnings in 2007, up from twenty percent in 1990).

¹⁸² Lauricella, *supra* note 133.

¹⁸³ *What Went Wrong*, *supra* note 181; see also Lauricella, *supra* note 133, at chart 2 (showing that domestic financial assets were equal to ten times domestic GDP in 2007, compared to five times GDP between 1960 and 1980).

crisis. However, the U.S. was not the only country to experience a credit boom in recent years. Similar credit expansions occurred in the United Kingdom (U.K.) and several European countries.¹⁸⁴ The U.K.'s credit boom most closely resembles the U.S. experience. In the U.K., as in the U.S., the advent of widespread securitization and other financial innovations significantly increased the availability of credit to higher-risk consumers, promoters of LBOs and commercial real estate developers.¹⁸⁵ In both nations, the credit boom resulted in a sharp increase in the ratio of household debts to disposable income, with the U.K. ratio reaching a level even higher than in the U.S.¹⁸⁶ As in the U.S., the U.K. credit boom produced a rapid growth in financial sector debt and financial industry profits.¹⁸⁷ In both countries, LCFIs boosted profits by using financial innovations (including structured financial instruments and off-balance-sheet vehicles) to increase their leverage.¹⁸⁸ Leading universal banks in both nations suffered huge losses, and some LCFIs failed or were effectively nationalized by early 2009.¹⁸⁹

¹⁸⁴ See, e.g., Jack Ewing et al., *What's Dragging Europe Down*, BUS. WK., Mar. 9, 2009, at 36, available at LEXIS, News Library, BUSWK File (stating that "Western banks [had decided to] choke off easy credit that fueled Asian-style growth" among Eastern European countries, and that many European corporations were "deeply in hock" because of a "glut of debt-fueled private equity" underwritten by banks); *Britain's Fallen Star: The Economy*, ECONOMIST, Feb. 14, 2009, at 65, available at LEXIS, News Library, ECON File [hereinafter *Britain's Fallen Star*] (discussing how Britain's economic boom from 1991 to 2007 was "fueled by debt—both public and private—and involved a star role for City bankers currently vilified for their excesses"); *The Party is Definitely Over: Ireland's Economy*, ECONOMIST, Mar. 21, 2009, at 51, available at LEXIS, News Library, ECON File (discussing Ireland's severe economic problems resulting from the bursting of "house-price and credit booms that were big even by British standards"); see also *The Euro Area: A Tricky Balancing Act*, ECONOMIST, Feb. 7, 2009, at 44, available at LEXIS, News Library, ECON File (concluding that the euro area's economy, which seemed strong at the beginning of the subprime financial crisis, was suffering as badly as the U.S. and U.K. economies).

¹⁸⁵ FINANCIAL SERVICES AUTHORITY, *THE TURNER REVIEW: A REGULATORY RESPONSE TO THE GLOBAL BANKING CRISIS* 13–16, 29–32 (2009), available at http://www.fsa.gov.uk/pubs/other/turner_review.pdf [hereinafter *TURNER REVIEW*]; see Paul Langley, *Financialization and the Consumer Credit Boom*, 12 *COMPETITION & CHANGE* 133, 133–35 (2008) (noting that "one of the principal features of Anglo-American economies in recent decades [has been] the boom in consumer borrowing," and contending that financial innovations played a key role in promoting that boom).

¹⁸⁶ INT'L MONETARY FUND, *GLOBAL FINANCIAL STABILITY REPORT: FINANCIAL STRESS AND DELEVERAGING: MACROFINANCIAL IMPLICATIONS AND POLICY* 17–18 (2008), available at <http://www.imf.org/external/pubs/ft/gfsr/2008/02/pdf/text.pdf> [hereinafter *OCTOBER 2008 IMF GFS REPORT*]; *Britain's Fallen Star*, *supra* note 184 (reporting that British households were carrying the heaviest debt burden among G7 economies, with household debt equal to 185% of disposable income at the end of 2007); see also *infra* note 219 and accompanying text (stating that the ratio of household debt to disposable income in the U.S. rose to 140% in 2006).

¹⁸⁷ *TURNER REVIEW*, *supra* note 185, at 16–18; Stephanie Baker et al., *U.K. Banks in Crisis: Rewriting the Rules*, BLOOMBERG MKTS. MAG., Jan. 2009, at 74, 79 (reporting that the assets of U.K. banks tripled to £ 6 trillion between 2001 and 2007); *Britain's Fallen Star*, *supra* note 184.

¹⁸⁸ *TURNER REVIEW*, *supra* note 185, at 19–20, 29; *What Went Wrong*, *supra* note 181; see *infra* Part III.B.3.d.

¹⁸⁹ *Britain's Fallen Star*, *supra* note 184; *What Went Wrong*, *supra* note 181; see *infra* Part III.C.

2. Causes of the Credit Boom

Four factors contributed significantly to the credit boom in the U.S. First, many have blamed the FRB's monetary policy under Chairman Alan Greenspan for helping to create the U.S. dotcom-telecom bubble of the late 1990s and the housing bubble of 2003–2006. Greenspan's critics argue that the FRB followed an excessively lax monetary policy during the second half of the 1990s, particularly when the FRB cut short-term rates aggressively in 1998 in response to Russia's debt default and the threatened collapse of Long-Term Capital Management, a large hedge fund. Critics contend that the FRB's rate cuts in 1998 (together with a further easing of monetary policy in 1999) helped to promote reckless speculation in the stock market at the height of the dotcom-telecom bubble.¹⁹⁰

Greenspan's detractors maintain that the FRB's monetary policy after 2000 was even more expansionary and, therefore, inflicted even greater damage on the U.S. economy. A sharp recession followed the bursting of the stock market bubble in early 2000. In response, the FRB cut short-term interest rates from 6.5% in January 2001 to 1% in mid-2003—the lowest level since 1954—and did not increase rates again until mid-2004.¹⁹¹ Greenspan and his FRB colleagues believed that ultra-low interest rates were needed to avoid a deflationary episode in the U.S. similar to the economic problems that Japan suffered during the 1990s after the bursting of its own stock market bubble.¹⁹² Thus, the FRB's second episode of low interest rates was deliberately intended to offset the effects of the dotcom-telecom bust, for which the FRB bore significant responsibility.¹⁹³

Indeed, Greenspan acknowledged in November 2002 that the FRB's lax monetary policy was designed to boost housing prices. In testimony

¹⁹⁰ E.g., FLECKENSTEIN & SHEEHAN, *supra* note 173, at 15–81; KUTTNER, *supra* note 171, at 152–60; MORRIS, *supra* note 172, at 32–33, 49–55, 64–65; ROBERT J. SHILLER, IRRATIONAL EXUBERANCE 40–41 (2d ed. 2005); STIGLITZ, *supra* note 143, at 56–66; Wilmarth, *supra* note 13, at 346–48, 370–73, 470–73.

¹⁹¹ E.g., FLECKENSTEIN & SHEEHAN, *supra* note 173, at 108–14, 120, 124–29, 141–45; MORRIS, *supra* note 172, at 59, 62–65; Marc Faber, *Synchronized Boom, Synchronized Bust*, WALL ST. J., Feb. 18, 2009, at A17, available at LEXIS, News Library, WSJNL File; Greg Ip & Jon E. Hilsenrath, *Debt Bomb: Inside the 'Subprime' Mortgage Debacle: Seeds of Excess: How Credit Got So Easy and Why It's Tightening*, WALL ST. J., Aug. 7, 2007, at A1, available at LEXIS, News Library, WSJNL File; Gerald P. O'Driscoll, Jr., *Our Subprime Fed*, WALL ST. J., Aug. 10, 2007, at A11.

¹⁹² FLECKENSTEIN & SHEEHAN, *supra* note 173, at 141–45; see also Ben S. Bernanke, Governor of the Fed. Reserve Bd., *Remarks at the National Economics Club: Deflation: Making Sure "It" Doesn't Happen Here* (Nov. 21, 2002), available at <http://www.federalreserve.gov/boarddocs/speeches/2002/20021121/default.htm> (quoted and discussed in FLECKENSTEIN & SHEEHAN, *supra* note 173, at 141–42); Roger W. Ferguson, Jr., Vice Chairman of the Fed. Reserve Bd., *Remarks at the Stanford Institute for Economic Policy Research: Recessions and Recoveries Associated with Asset-Price Movements: What Do We Know?* (Jan. 12, 2005) at 2, 6, available at <http://www.federalreserve.gov/boarddocs/speeches/2005/20050112/default.htm>.

¹⁹³ FLECKENSTEIN & SHEEHAN, *supra* note 173, at 50–81, 120, 139–49; MORRIS, *supra* note 172, at 59, 62–65.

during a congressional hearing, Greenspan stated that the FRB's policy of maintaining low interest rates had led to an increase in housing values, which enabled homeowners to withdraw equity from their homes to finance personal consumption. Greenspan argued that consumption funded by home equity withdrawals was helping to offset the recessionary effects of the dotcom-telecom bust.¹⁹⁴

The FRB's rate-cutting policy produced short-term interest rates that were negative (adjusted for inflation) from October 2002 until April 2005.¹⁹⁵ Critics allege that the FRB's policy fueled huge credit bubbles in the housing market and other sectors of the U.S. economy.¹⁹⁶ In the opinion of William Fleckenstein—probably Greenspan's most severe critic—"Greenspan bailed out the world's largest equity bubble with the world's largest real estate bubble."¹⁹⁷ Economist John B. Taylor determined that the FRB's short-term interest rates during 2003–2006 were "well below what experience during the previous two decades of good . . . macroeconomic performance . . . would have predicted."¹⁹⁸ Taylor also concluded that "a higher federal funds rate path would have avoided much of the housing boom."¹⁹⁹

The currency exchange rate policies of Asian and oil exporting nations were a second important factor behind the credit boom in the U.S., U.K. and other Western countries. To support their export-driven economies, China, Japan, South Korea, and other Asian countries managed exchange rates to maintain artificially low values for their currencies versus the dollar, the pound sterling and other Western currencies. Asian countries boosted the values of Western currencies by amassing huge foreign reserves, including investments in government securities issued by the U.S. and other Western nations. In addition, oil exporting nations invested much of their balance-of-trade surpluses in Western financial markets. As a result of these massive investments in Western government securities and financial markets by Asian and oil exporting nations, the U.S., U.K. and

¹⁹⁴ *Economic Outlook: Hearing Before the J. Economic Comm.*, 107th Cong. 2 (2002) (statement of Alan Greenspan, Chairman, Federal Reserve Board), available at <http://www.house.gov/jec/hearings/greenspan11-13-02.pdf>; see also FLECKENSTEIN & SHEEHAN, *supra* note 173, at 139–40 (quoting and discussing Greenspan's testimony).

¹⁹⁵ ROBERT J. SHILLER, *THE SUBPRIME SOLUTION* 48 (2008); see also MORRIS, *supra* note 172, at 59.

¹⁹⁶ E.g., FLECKENSTEIN & SHEEHAN, *supra* note 173, at 143–79; MORRIS, *supra* note 172, at 59, 62–69; Faber, *supra* note 191; Ip & Hilsenrath, *supra* note 191; O'Driscoll, *supra* note 191.

¹⁹⁷ FLECKENSTEIN & SHEEHAN, *supra* note 173, at 181; see also SHILLER, *supra* note 195, at 48 (stating that the FRB's "very loose monetary policy" after 2000 and the resulting "real estate boom" were "driven by economic conditions that were created by the stock market bubble of the 1990s").

¹⁹⁸ John B. Taylor, *Housing and Monetary Policy* 2 (Nat'l Bureau of Econ. Research, Working Paper No. 13682, 2007), available at <http://www.nber.org/papers/w13682.pdf>.

¹⁹⁹ *Id.* at 6. Similarly, the U.K. government's fiscal and monetary policies have been criticized for promoting unsustainable booms in British residential and commercial real estate markets. See generally Simon Lee, *The Rock of Stability? The Political Economy of the Brown Government*, 30 POL'Y STUD. 17, 26–27 (2009); Britain's *Fallen Star*, *supra* note 184.

other Western countries were able to maintain their interest rates at low levels until 2007, despite increases in their national debts and current account deficits. In the process, abundant credit was provided to Western consumers and businesses.²⁰⁰

Economist Robert Shiller and other observers contend that mass psychology provides a third explanation for the credit boom, particularly as manifested in the housing sector.²⁰¹ Shiller points to a “*social contagion* of boom thinking, mediated by the common observation of rapidly rising prices . . . that appear to justify the belief that the boom will continue.”²⁰² The recent housing bubble resembled previous speculative booms because “[housing] price increases encourage[d] belief in ‘new era’ stories, promote[d] the contagion of those stories, and so [led] to further price increases.”²⁰³

Shiller further maintains that “bubble thinking” explains why (i) the FRB did not perceive any problem with its “very loose monetary policy” after 2000, (ii) the FRB and other federal bank regulators did not recognize the risks created by subprime lending, (iii) the credit ratings agencies “persisted in giving AAA ratings to [subprime] mortgage securities,” and (iv) bank executives “absolutely did not see the crisis coming.”²⁰⁴ Thus, in Shiller’s view, “the very people responsible for oversight were caught up in the same high expectations for future home-price increases that the general public had . . . [T]hey [a]ccepted the received wisdom that [the housing boom] could not end badly.”²⁰⁵ Similarly, because “U.S. home prices increased every year from 1997 to 2006,” the general public

²⁰⁰ For discussions of the impact of foreign currency exchange rate policies and foreign investments in Western securities in promoting low interest rates and abundant credit in the U.S. and other Western nations, see, for example, MORRIS *supra* note 172, at 88–104; DMITRI B. PAPADIMITRIOU ET AL., LEVY ECON. INSTIT. BARD COLLEGE, CAN THE GROWTH IN THE U.S. CURRENT ACCOUNT DEFICIT BE SUSTAINED? THE GROWING BURDEN OF SERVICING FOREIGN-OWNED U.S. DEBT 2 (2006), available at http://www.levy.org/pubs/sa_may_06.pdf; Douglas W. Arner, *The Global Credit Crisis of 2008: Causes and Consequences* 16–17 (AIIFL Working Paper No. 3, Jan. 2009), available at <http://ssrn.com/abstract=1330744>; Adrian Blundell-Wignall & Paul Atkinson, *The Sub-Prime Crisis: Causal Distortions and Regulatory Reform*, in LESSONS FROM THE FINANCIAL TURMOIL OF 2007 AND 2008, at 55, 57–58 (Paul Bloxham & Christopher Kent, eds., Res. Bank of Australia 2008), available at <http://www.rba.gov.au/PublicationsAndResearch/Conferences/2008/index.html>; Brunnermeier, *supra* note 3, at 77; W. Max Corden, *The World Credit Crisis: Understanding It, and What to Do* 3–5, 14–18 (Melbourne Instit. Working Paper No. 25/08, Dec. 2008), available at <http://www.melbourneinstitute.com/wp/wp2008n25.pdf>; TURNER REVIEW, *supra* note 185, at 12–13; Ip & Hilsenrath, *supra* note 191; Mark Whitehouse, *Imbalance in Nations’ Savings Clouds Forecasts for Recovery*, WALL ST. J., Mar. 23, 2009, at A2, available at LEXIS, News Library, WSJNL File.

²⁰¹ SHILLER, *supra* note 195, at 4 (maintaining that “the ultimate cause of the global financial crisis is the psychology of the real estate bubble,” as manifested in “an epidemic of irrational public enthusiasm for housing investments”).

²⁰² *Id.* at 41; see also FLECKENSTEIN & SHEEHAN, *supra* note 173, at 152–55, 173–76; MORRIS, *supra* note 172, at 65–67.

²⁰³ SHILLER, *supra* note 195, at 45–46.

²⁰⁴ *Id.* at 48–54; see also FLECKENSTEIN & SHEEHAN, *supra* note 173, at 152–61, 173–76.

²⁰⁵ SHILLER, *supra* note 195, at 53–54.

concluded that “homes [were] the best investment one [could] make.”²⁰⁶

The fourth factor behind the enormous—and ultimately unsustainable—credit boom was the crucial role played by large financial conglomerates. As explained in the the next section, universal banks were the most important private sector catalysts for the credit boom and the resulting financial crisis.

B. Financial Conglomerates Promoted the Credit Boom, Which Exposed Households, Nonfinancial Businesses and Financial Institutions to Catastrophic Losses

During the past two decades—and especially after 2000—universal banks used innovative financial products to provide huge amounts of high-risk credit to marginal borrowers in the household and business sectors. In addition, universal banks created massive debt burdens within the financial sector, because they (i) provided large amounts of credit to nonbank financial institutions and (ii) used financial innovations to increase their own leverage. The FRB’s lax monetary policies encouraged LCFIs to originate and distribute a wide variety of debt instruments that continued to feed the credit boom. By 2007, the health of the U.S. economy relied on a massive confidence game—indeed, some might say, a Ponzi scheme²⁰⁷—operated by its leading financial institutions. The continued success of this game depended upon the willingness of investors to keep buying new debt instruments that would enable overstretched borrowers to expand their consumption and service their debts. When investor confidence in the solvency of subprime borrowers was severely shaken in the summer of 2007, the game collapsed and a severe financial crisis began. Thus, as FRB Chairman Bernanke acknowledged in February 2009:

The principal cause of the economic slowdown was the collapse of the global credit boom and the ensuing financial crisis, which has affected asset values, credit conditions, and consumer and business confidence around the world. The immediate trigger of the crisis was the end of the housing booms in the United States and other countries and the associated problems in mortgage markets, notably the

²⁰⁶ *Id.* at 64, 65; *see also* FLECKENSTEIN & SHEEHAN, *supra* note 173, at 157, 156 (stating that “[i]n the real estate bubble, it was assumed that . . . prices [would] continue to get higher indefinitely” and “participants started to feel truly invincible”).

²⁰⁷ *See* FLECKENSTEIN & SHEEHAN, *supra* note 173, at 176–78 (quoting November 15, 2007 report by Robert Campbell, which alleged that banks and mortgage companies had “effectively turned the U.S. housing market into a system of Ponzi finance” because they made “trillions of dollars” of high-risk mortgage loans to “millions of Americans who had little or no chance of making payments on those loans to maturity.”); *see also infra* notes 303 and 407 and accompanying text (discussing conditions of “Ponzi finance” created in the housing and LBO markets by LCFIs’ aggressive underwriting of nonprime residential mortgages and leveraged corporate loans).

collapse of the U.S. subprime mortgage market.²⁰⁸

1. *The Explosion of Household Debt after 1990*

Household mortgage debt nearly quadrupled between 1991 and 2007, rising from \$2.7 trillion to \$10.5 trillion.²⁰⁹ Four-fifths of this growth in residential mortgage debt took place after 2000.²¹⁰ As a consequence of this huge increase in mortgage debt, homeowners' equity as a percentage of the market value of household real estate declined from 60.5% in 1991 to 47.9% in 2007.²¹¹

Non-mortgage consumer credit (including credit card loans, auto loans and student loans) more than tripled between 1991 and 2007, increasing from \$800 billion to \$2.55 trillion.²¹² More than half of this growth in consumer credit occurred after 2000.²¹³ The growth rate for consumer credit was somewhat less rapid than mortgage debt, because homeowners drew heavily on the equity in their homes to pay down their credit card debts and other consumer loans.²¹⁴

For example, a study by Alan Greenspan and James Kennedy estimated that homeowners used home equity extractions (i.e., proceeds from home sales and refinancings) to pay off \$935 billion of non-mortgage

²⁰⁸ *Semiannual Monetary Report to the Congress: Hearing Before the Senate Comm. on Banking, Housing and Urban Affairs*, 111th Cong. (2009), available at <http://www.federalreserve.gov/newsevents/testimony/bernanke20090224a.htm> (testimony by Ben S. Bernanke, FRB Chairman).

²⁰⁹ See 1996 FLOW OF FUNDS REPORT, *supra* note 92, at 92 tbl.L.218, line 2 (providing amount for year-end 1991); 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 94 tbl.L.218, line 2 (providing figure for year-end 2007).

²¹⁰ Household mortgage debt increased by \$5.6 trillion (from \$4.9 trillion to \$10.5 trillion) between 2000 and 2007, accounting for eighty-two percent of the \$7.8 trillion increase in mortgage debt from 1991 to 2007. See 1996 FLOW OF FUNDS REPORT, *supra* note 92, at 92 tbl.L.218, line 2 (providing data for year-end 1991); 2002 FLOW OF FUNDS REPORT, *supra* note 179, at 94 tbl.L.218, line 2 (providing amount for year-end 2000); 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 94 tbl.L.218, line 2 (providing figure for year-end 2007).

²¹¹ BD. OF GOVERNORS OF FED. RES. SYS., FLOW OF FUNDS ACCOUNTS OF THE UNITED STATES, 4TH QTR. 1997, at 104 tbl.B.100, line 52 (providing amount for year-end 1991); 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 102 tbl.B.100, line 50 (providing figure for year-end 2007).

²¹² 1996 FLOW OF FUNDS REPORT, *supra* note 92, at 94 tbl.L.222, line 1; 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 96 tbl.L.222, line 1.

²¹³ Consumer credit rose from \$800 billion at the end of 1991 to \$1.59 billion at the end of 2000 and further increased to \$2.55 trillion at the end of 2007. See 1996 FLOW OF FUNDS REPORT, *supra* note 92, at 94 tbl.L.222, line 1 (providing amount for year-end 1991); 2002 FLOW OF FUNDS REPORT, *supra* note 179, at 96 tbl.L.222, line 1 (providing figure for year-end 2000); 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 96 tbl.L.222, line 1 (providing data for year-end 2007).

²¹⁴ See Alan Greenspan & James Kennedy, *Sources and Uses of Equity Extracted from Homes*, 24 OXFORD REV. ECON. POL'Y 120, 122, 139 (2008). In addition, the Tax Reform Act of 1986 (TRA) made nonmortgage consumer loans less attractive to homeowners, because the TRA ended the deductibility of interest paid on consumer loans while preserving the deductibility of interest paid on loans secured by residential real estate. The TRA encouraged homeowners to use mortgage refinancings and home equity loans to pay off nonmortgage consumer loans in order to increase their ability to deduct their interest payments from their taxable income. See PAUL MUOLO & MATHEW PADILLA, CHAIN OF BLAME: HOW WALL STREET CAUSED THE MORTGAGE AND CREDIT CRISIS 36 (2008); Souphala Chomsisengphet & Anthony Pennington-Cross, *The Evolution of the Subprime Mortgage Market*, FED. RES. BANK OF ST. LOUIS REV. 31, 38 (2006).

consumer credit during 1991–2006.²¹⁵ The same study estimated that homeowners withdrew \$1.15 trillion from their home equity to finance personal consumption during 1991–2006.²¹⁶ Because most of the consumer debt that homeowners repaid from home equity had originally been incurred for consumption of goods and services, homeowners effectively relied on home equity withdrawals to finance more than \$2 trillion of their personal consumption during 1991–2006.²¹⁷ Three-quarters of those home equity withdrawals occurred during the housing boom of 2001–2006.²¹⁸

The tremendous growth in all types of consumer debt during 1991–2007 was reflected in the rising debt burdens of U.S. households. Total household debt as a percentage of disposable personal income rose from 87 percent in 1990 to 140 percent in 2006.²¹⁹ Mortgage debt, the largest component of household debt, rose from 58 percent to 102 percent of disposable income during the same period.²²⁰

Not surprisingly, the savings rate of U.S. households moved in the opposite direction from their debt burden, falling from about eight percent in 1992 to just above zero in 2006.²²¹ Many households (especially those below the wealthiest quintile) relied on increased borrowings and reduced savings to compensate for the relatively slow growth in their income.²²² The share of total U.S. household income earned by the top twenty percent of households rose significantly between 1990 and 2005, but the share earned by each of the lower quintiles declined.²²³ Individuals in the highest quintile of incomes achieved substantial gains in their inflation-adjusted earnings from 1973 to 2005, but individuals at or below the seventieth percentile recorded very modest gains during the same period.²²⁴ Thus, middle and lower income households increased their borrowings to

²¹⁵ Greenspan & Kennedy, *supra* note 214, at 131 tbl.2, line 5, 139.

²¹⁶ *Id.* at 131 tbl.2, line 9, 140.

²¹⁷ *Id.* at 131 tbl.2, lines 5 and 9, 139–40.

²¹⁸ *Id.* at 131 tbl.2, lines 5 and 9.

²¹⁹ Aldo Barba & Massimo Pivetti, *Rising Household Debt: Its Causes and Macroeconomic Implications—A Long-Period Analysis*, 33 CAMBRIDGE J. ECON. 113, 115 tbl.1 (2009).

²²⁰ *Id.* (showing that consumer credit rose from 19% to 25% of disposable income, and other household debts increased from 9% to 12% of disposable income, between 1990 and 2006).

²²¹ Karen E. Dynan & Donald L. Kohn, *The Rise in U.S. Household Indebtedness: Causes and Consequences*, fig.1 (Fin. & Econ. Discussion Ser. Working Paper 207–37), available at www.federalreserve.gov/pubs/feds/2007/200737/200737pap.pdf; see also Barba & Pivetti, *supra* note 219, at 123 (stating that households' net savings as a percentage of disposable net income fell from 10% in 1980 to 0.5% in 2005).

²²² KUTTNER, *supra* note 171, at 16, 20–30, 37–40; Barba & Pivetti, *supra* note 219, at 123–27.

²²³ Barba & Pivetti, *supra* note 219, at 123 tbl.4.

²²⁴ David H. Autor, *Explaining Trends in Wages, Work, and Occupations*, 261 CHICAGO FED LETTER (Apr. 2009), available at http://www.chicagofed.org/publications/fedletter/cflapril2009_261.pdf; Janet L. Yellen, *Economic Inequality in the United States*, FRBSF ECON. LETT. No. 2006-33-34, at 2, fig. 1 (Dec. 1, 2006), available at <http://www.frbsf.org/publications/economics/letter/2006/el2006-33-34.pdf>; see also KUTTNER, *supra* note 171, at 16, 20.

offset the impact of stagnant incomes. However, by doing so they became increasingly exposed to shocks from adverse changes in their family situation or macroeconomic conditions.²²⁵

As discussed below, vulnerable households were able to increase their debt burdens because financial innovations—including securitization and automated processing for residential mortgages and credit card loans—significantly expanded their access to credit.²²⁶ As also described below, lenders increasingly marketed nonprime mortgages and nonprime consumer loans to lower income groups during the past decade. As a result, significantly higher percentages of households in the lowest three income quintiles gained access to credit in 2004, compared to 1983.²²⁷ Unfortunately, wider access to credit produced much higher debt burdens for lower income groups. In 2004, household debt burdens were almost 400% of disposable personal income for the lowest income quintile in relation to disposable personal income, nearly 250% for the second lowest quintile, and more than 200% for the third lowest quintile. In contrast, household debt burdens for the highest quintile were less than 130%.²²⁸ The excessively high debt burdens carried by low and middle income households, and the recent spikes in delinquency and default rates for residential mortgages and credit card loans, are the painful legacy of the post-1990 credit boom.²²⁹

2. *The Dominant Role of Large, Federally-Chartered Banks in Consumer Credit Markets*

LCFIs played leading roles in promoting the post-1990 surge in consumer credit, including both residential mortgage debt and nonmortgage debt. Major banks established dominant positions in consumer lending markets by creating nationwide credit programs that used (i) mass marketing techniques, (ii) highly automated loan processing programs, and (iii) computerized credit scoring programs for reviewing and approving loan applications in lieu of personal reviews of credit files.²³⁰ Big banks also funded a growing portion of their consumer lending programs by securitizing mortgages and credit cards into RMBS

²²⁵ Dynan & Kohn, *supra* note 221, at 10, 31–32.

²²⁶ *Id.* at 17–19; *see also infra* notes 230–34 and accompanying text (discussing financial innovations that encouraged mass-marketing and securitization of mortgages and credit cards).

²²⁷ Barba & Pivetti, *supra* note 219, at 117, 118 tbl.2; *see also infra* Part III.B.3.

²²⁸ *Id.* at 118 tbl.3.

²²⁹ *See, e.g.,* FLECKENSTEIN & SHEEHAN, *supra* note 173, at 129–30, 152–61, 173–78; Jessica Silver-Greenberg, *The Credit-Card Blowup Ahead*, BUS. WEEK Oct. 20, 2008, at 24, *available at* LEXIS, News Library, BUSWK File; Michelle J. White, *Bankruptcy: Past Puzzles, Recent Reforms, and the Mortgage Crisis*, 8–10, 14, 20 (fig. 2) (Nat'l Bur. Econ. Res. Working Paper 14549, Dec. 2008).

²³⁰ Robert DeYoung & Tara Rice, *How do Banks Make Money? A Variety of Business Strategies*, ECON. PERSPECTIVES (Fed. Res. Bank of Chi., IL), 4th Qtr. 2004, at 52, 53–56; Wilmarth, *supra* note 13, at 388–89.

and ABS.²³¹ By the end of 2007, about sixty percent of outstanding residential mortgages and about half of outstanding credit card loans were securitized.²³² Mass marketing, automated processing, credit scoring, and securitization enabled big banks to transform consumer lending “from a high-touch, relationship-based service to an arms-length, financial commodity business.”²³³

LCFIs have dominated the markets for residential mortgages and credit cards markets since 2000. In 2001, the top five mortgage lenders were Chase, Wells Fargo, BofA, Washington Mutual (Wamu) and Countrywide. In the same year, the top ten mortgage lenders controlled almost half of the mortgage origination and servicing markets.²³⁴ In 2006 and 2007, the top five mortgage lenders from 2001, together with Citigroup, controlled a majority of both the mortgage origination and mortgage servicing markets.²³⁵ Similarly, the top five credit card lenders increased their share of the credit card market from 60% in 1999 to 71% in 2005.²³⁶ In 2008, three giant banks—BofA, Citigroup and Chase—controlled more than half of the credit card market.²³⁷

The emergence of dominant national lenders for mortgages and credit card loans was facilitated by federal preemption of a wide range of state laws, including state usury laws, state consumer protection laws, and state laws restricting interstate branching. In 1978, the Supreme Court held that a provision of the National Bank Act, 12 U.S.C. § 85, gave national banks “most favored lender” status in their home state and also allowed national banks to “export” their home state interest rates to borrowers residing in other states.²³⁸ In 1996, the Supreme Court upheld a regulation of the

²³¹ Vallee, *supra* note 85, at 4–6; Wilmarth, *supra* note 13, at 389.

²³² 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 94 tbl.L.218, lines 2, 18, 19 (showing that \$10.5 trillion of home mortgages were outstanding at the end of 2007, of which \$6.4 trillion were held in agency- and GSE-backed mortgage pools or by ABS issuers); BD. GOVERNORS FED. RES. SYS., CONSUMER CREDIT, SEPT. 2008, STATISTICAL REL. G.19, Nov. 7, 2008 (“Consumer Credit Outstanding” tbl., showing that \$970 billion of revolving credit (primarily consisting of credit card loans) was outstanding at the end of 2007, of which \$450 billion was held in pools of securitized assets).

²³³ DeYoung & Rice, *supra* note 230, at 56; *see also* Wilmarth, *supra* note 13, at 389.

²³⁴ Wilmarth, *supra* note 13, at 389–90 n.751.

²³⁵ *Consumer Finance (Mortgages): Top Residential Originators*, US BANKER, July 2008, at 34 (showing that the six institutions controlled 51% of the origination market in 2007); *Consumer Finance (Mortgages): Top Residential Servicers*, US BANKER, July 2008, at 35 (showing that the six banks controlled 62% of the servicing market in 2007); *Top Residential Originators*, AM. BANKER, June 15, 2007, at 14 (showing that the same six banks controlled 49.5% of the origination market in 2006); *Top Residential Servicers*, AM. BANKER, June 15, 2007, at 14 (showing that the same six institutions controlled 58% of the servicing market in 2006).

²³⁶ THE NILSON REPORT, *Top Credit Card Issuers*, Feb. 2006, at 1 (providing 2005 data); Wilmarth, *supra* note 13, at 390 n.751 (providing 1999 figure).

²³⁷ Daniel Wolfe, *Top Issuers, with Less Appetite for Risk, Slashing Credit Lines*, AM. BANKER, Dec. 2, 2008, at 7.

²³⁸ *Marquette National Bank v. First of Omaha Service Corp.*, 438 U.S. 299 (1978). For a comprehensive analysis of the “most favored lender” and “exportation” doctrines, *see* Elizabeth R. Schiltz, *The Amazing, Elastic, Ever-Expanding Exportation Doctrine and Its Effect on Predatory*

Office of the Comptroller of the Currency (OCC), declaring that the “interest” which national banks could “export” to other states included all fees that were “material to the determination of the interest rate,” including numerical periodic rates, annual fees, cash advance fees, bad check fees, over-the-limit fees, and late payment fees. The OCC’s regulation thus exempted a wide range of lump-sum fees and charges, as well as numerical periodic interest rates, from any regulation under state law.²³⁹

In 1994, Congress adopted legislation that (i) authorized bank holding companies to make interstate acquisitions of banks and (ii) empowered national banks and state banks to establish interstate branches. This legislation made possible the establishment of large nationwide banking organizations.²⁴⁰ In addition, the OCC declared in 1998 that a national bank may “export” to other states the “interest” allowed by the law of any state in which the bank maintains either its main office or a branch.²⁴¹

In combination, the foregoing legal developments effectively precluded the states from applying their state usury laws and many other state consumer credit laws to loans made by national banks and federally-chartered thrifts. Under current federal laws, federally-chartered institutions can locate their consumer credit operations in a state (e.g., Delaware or South Dakota) that imposes no restrictions on periodic rates or on other fees and charges that the OCC determines to be part of “interest” for purposes of 12 U.S.C. § 85. Federally-chartered institutions can also “export” those terms of credit to customers residing in all other states, regardless of any conflicting laws enacted by those states.²⁴²

In 2004, the OCC issued a regulation that expanded the scope of preemption for national banks far beyond matters relating to “interest.” The OCC’s regulation seeks to preempt all state laws that “obstruct, impair, or condition a national bank’s ability to fully exercise its [f]ederally authorized powers” in four broadly-defined areas—real estate lending, lending not secured by real estate, deposit-taking, and other

Lending Regulation, 88 MINN. L. REV. 518 (2004). In 1980, Congress granted “most favored lender” status and “exportation” authority to FDIC-insured state banks and thrift institutions. *Id.* at 565–67 (discussing 12 U.S.C. § 1831d, which applies to all FDIC-insured state banks); *id.* at 601–03 (discussing 12 U.S.C. § 1463(g)(1), which applies to federally-chartered thrift institutions).

²³⁹ *Smiley v. Citibank (South Dakota), N.A.*, 517 U.S. 735 (1996) (upholding the validity of 12 C.F.R. § 7.4001(a)); *see also* Schiltz, *supra* note 238, at 560–65 (discussing *Smiley* and the OCC’s expansive interpretation of “interest” under 12 U.S.C. § 85).

²⁴⁰ *See generally* MCCOY, *supra* note 14, § 9.04.; *see also id.* § 9.04[1] (stating that the 1994 legislation made “interstate banking truly universal . . . by ending the states’ authority to ban interstate banking”).

²⁴¹ Schiltz, *supra* note 238, at 553–56 (discussing OCC Interpretive Letter No. 822, Feb. 17, 1998).

²⁴² *Id.* at 561–65, 618; *see also* Oren Bar-Gill & Elizabeth Warren, *Making Credit Safer*, 157 U. PA. L. REV. 1, 80–81 (2008).

“operations.”²⁴³ The OCC’s regulation thereby “cancels out much state-level consumer protection law.”²⁴⁴ The regulation is closely similar to preemptive rules previously issued by the Office of Thrift Supervision (OTS) with respect to lending, deposit-taking and other “operations” of federally-chartered thrifts.²⁴⁵

The OCC issued a second regulation in 2004, which bars state officials from initiating any administrative or judicial proceeding to enforce applicable laws (state or federal) against national banks.²⁴⁶ The validity of that regulation was upheld by the Second Circuit Court of Appeals. However, the Supreme Court recently granted review in that case.²⁴⁷

A third OCC regulation declared that operating subsidiaries of national banks are entitled to the same preemptive immunity from state laws that national banks are granted under federal law. That regulation was upheld by the Supreme Court in 2007.²⁴⁸ The OCC and OTS further ruled that states could not regulate mortgage brokers and other contract agents who arranged loans on behalf of national banks or federal thrifts.²⁴⁹

As the result of federal statutory preemption and the OCC’s and OTS’s preemption rules, “[m]any credit practices that a state may deem fraudulent, deceptive, or otherwise unlawful will nonetheless be permitted within state borders whenever federally chartered institutions are involved.”²⁵⁰ By exempting federally-chartered institutions from most state consumer protection laws, federal preemption promoted the establishment of huge, federally-chartered banks with nationwide consumer lending operations.²⁵¹

²⁴³ See 12 C.F.R. § 34.4(a) (real estate lending); *id.* § 7.4008 (lending not secured by real estate); *id.* § 7.4007 (deposit-taking); *id.* § 7.4009 (other “operations”). For analysis and critique of the OCC’s rules, see Bar-Gill & Warren, *supra* note 242, at 81–82; Arthur E. Wilmarth, Jr., *The OCC’s Preemption Rules Exceed the Agency’s Authority and Present a Serious Threat to the Dual Banking System and Consumer Protection*, 23 ANN. REV. OF BANKING AND FIN. L. 225 (2004).

²⁴⁴ Bar-Gill & Warren, *supra* note 242, at 82.

²⁴⁵ See 12 C.F.R. §§ 560.2, 557.11, 545.2, discussed in Wilmarth, *supra* note 243, at 235, 283–84.

²⁴⁶ See 12 C.F.R. § 7.4000, discussed in Wilmarth, *supra* note 243, at 228–29, 327–34.

²⁴⁷ Clearing House Ass’n v. Cuomo, 510 F.3d 105 (2d Cir. 2007), *cert. granted*, 129 S. Ct. 987 (U.S. Jan. 16, 2009) (No. 08-453).

²⁴⁸ *Watters v. Wachovia Bank, N.A.*, 550 U.S. 1 (2007) (upholding the validity of 12 C.F.R. § 7.4006).

²⁴⁹ See *State Farm Bank, FSB v. Reardon*, 539 F.3d 336 (6th Cir. 2008) (upholding OTS ruling that permitted a federally-chartered thrift to offer mortgage loans through agents without complying with Ohio’s laws governing mortgage brokers); Office of Comptroller Currency, Preemption Determination, 66 Fed. Reg. 28,593 (May 23, 2001) (declaring that Michigan’s Motor Vehicle Finance Act did not apply to car dealers who arranged automobile loans made by national bank); OCC Interpretive Letter No. 1002 (May 13, 2004) (letter from Comptroller of the Currency John D. Hawke, Jr., to Georgia Banking Comm’r David G. Sorrell) (declaring that Georgia’s laws governing mortgage brokers did not apply to brokers who arranged loans funded at closing by national banks or their subsidiaries).

²⁵⁰ Bar-Gill & Warren, *supra* note 242, at 83.

²⁵¹ *Consumer Protections in Financial Services: Past Problems, Future Solutions: Hearings Before the S. Comm. on Banking, Housing, and Urban Affairs*, 111th Cong. 14–15 (2009) (written testimony of Professor Patricia A. McCoy), available at <http://ssrn.com/abstract=1367977> [hereinafter

Federal preemption significantly undermined the ability of states to enforce predatory lending laws. During the past decade a majority of states adopted laws designed to prevent abusive subprime lending practices, but the OTS's and OCC's preemption rules prevented the states from enforcing those laws against federally-chartered banks and their subsidiaries.²⁵² As shown below, large federally-chartered depository institutions and their affiliates were among the leading providers of subprime and Alt-A mortgages between 2001 and 2007.²⁵³

Many commentators have criticized the OCC and OTS for preempting state consumer protection laws without establishing adequate federal safeguards to protect consumers against abusive lending practices by federally chartered depository institutions, their subsidiaries, and agents.²⁵⁴ Those observers (as well as state regulators) maintain that preemptive actions by the OCC and OTS significantly undermined the states' ability to prevent predatory lending and did not provide an effective federal substitute for state enforcement.²⁵⁵

3. *Financial Conglomerates Were the Primary Private-Sector Catalysts for the Surge in Nonprime Consumer Lending after 2000*

a. LCFIs Were Major Originators and Funders of Nonprime Loans

Nonprime mortgages fall into two basic categories: "subprime" and "Alt-A." Those categories do not have strictly defined boundaries.

McCoy Testimony]; see also Bar-Gill & Warren, *supra* note 242, at 79–84; Wilmarth, *supra* note 243, at 233–37, 279–87, 363–64.

²⁵² McCoy Testimony, *supra* note 251, at 12–16; Julia P. Forrester, *Still Mortgaging the American Dream: Predatory Lending, Preemption, and Federally Supported Lenders*, 74 U. CIN. L. REV. 1303, 1319–22, 1339–53 (2006); Wilmarth, *supra* note 241, at 233–36, 298–99, 306.

²⁵³ See *infra* notes 269–77 and accompanying text.

²⁵⁴ E.g., McCoy Testimony, *supra* note 251, at 14–23; Bar-Gill & Warren, *supra* note 242, at 79–83, 90–95; Christopher L. Peterson, *Preemption, Agency Cost Theory, and Predatory Lending by Banking Agents: Are Federal Regulators Biting Off More Than They Can Chew?*, 56 AM. U. L. REV. 515, 516–19, 525–36, 544–51 (2007); Christopher L. Peterson, *Federalism and Predatory Lending: Unmasking the Deregulatory Agenda*, 78 TEMP. L. REV. 1, 70–84 (2005); Amanda Quester & Kathleen Keest, *Looking Ahead After Watters v. Wachovia Bank: Challenges for Lower Courts, Congress, and the Comptroller of the Currency*, 27 REV. BANKING & FIN. L. 187, 194–201, 215–16, 219–21 (2007); Wilmarth, *supra* note 241, at 233–36, 280–87, 298–300, 306–17, 348–56; Binyamin Appelbaum & Ellen Nakashima, *Banking Regulator Played Advocate Over Enforcer*, WASH. POST, Nov. 23, 2008, at A1, available at LEXIS, News Library, WPOST File; Nicholas Bagley, *Subprime Safeguards We Needed*, WASH. POST, Jan. 25, 2008, at A19, available at LEXIS, News Library, WPOST File; Robert Berner & Brian Grow, *They Warned Us*, BUS. WEEK, Oct. 20, 2008, at 36, available at LEXIS, News Library, BUSWK File; Eric Nalder, *Mortgage System Crumbled While Regulators Jostled*, SEATTLE POST-INTELLIGENCER, Oct. 11, 2008, at A1, available at LEXIS, News Library, SEAPIN File; Eliot Spitzer, *Predatory Lenders' Partner in Crime*, WASH. POST, Feb. 14, 2008, at A25, available at LEXIS, News Library, WPOST File.

²⁵⁵ See authorities cited *supra* in note 254; see also Malini Manickavasagam, *Regulatory Reform: Regulators Say Congress Could Stem Financial Fraud by Closing Certain Gaps*, 41 SEC. REG. & L. REP. 501 (2009) (reporting on testimony by state regulators, who pointed out the need for state oversight of lending practices when federal regulation is insufficient).

However, subprime loans “are generally targeted to borrowers who have tarnished credit histories and little savings available for down payments,” while Alt-A loans “are made to borrowers with more minor credit quality issues or borrowers who are unable or unwilling to provide full documentation of [their] assets or income.”²⁵⁶

Subprime lending increased from \$65 billion in 1995 to \$160 billion in 1999 but declined slightly to \$138 billion in 2000.²⁵⁷ Subprime lending then expanded rapidly beginning in 2001 and peaked between 2004 and 2006. Subprime loans increased from \$190 billion in 2001 to \$540 billion in 2004, \$625 billion in 2005 and \$600 billion in 2006.²⁵⁸ Similarly, Alt-A loans rose sharply from \$60 billion in 2001 to \$200 billion in 2004, \$380 billion in 2005 and \$400 billion in 2006.²⁵⁹ Nearly 10 million subprime and Alt-A loans were originated from 2003 to mid-2007.²⁶⁰

From 2001 to 2003, subprime and Alt-A loans represented eleven percent of total mortgage originations of \$9.0 trillion.²⁶¹ Prime mortgages accounted for most of the mortgages originated between 2001 and 2003, due to the refinancing boom created by the FRB’s ultra-low interest rate policy. However, mortgage interest rates began to rise in late 2003, leading to a significant reduction in refinancings of prime mortgages.²⁶² Investor demand for mortgage-related securities remained strong, and the mortgage lending industry shifted to nonprime mortgages to maintain their deal volume and fees.²⁶³

Consequently, subprime and Alt-A loans accounted for a steadily growing share of the residential mortgage market between 2004 and 2006. In 2004, subprime and Alt-A loans accounted for a quarter of the total mortgage originations of \$2.9 trillion. During 2005 and 2006, subprime and Alt-A loans represented a third of the \$6.1 trillion in mortgage

²⁵⁶ Christopher Mayer et al., *The Rise in Mortgage Defaults*, 23 J. ECON. PERSPS. 27, 27–28 (2009); see also Gorton, *supra* note 87, at 12–13 (providing a similar description of subprime borrowers, and further explaining that “subprime borrowers typically have a FICO score below 640, and at some point were delinquent on some debt repayments in the previous 12 to 24 months, or they have filed for bankruptcy in the past few years.”); *id.* at 13 n.2 (noting that “FICO is a credit score developed by Fair Isaac & Company” and that FICO scores range from 300 to 850”); Stephen G. Ryan, *Accounting in and for the Subprime Crisis* 11 (Mar. 2008) (unpublished essay), available at <http://ssrn.com/abstract=1115323> (stating that Alt-A mortgages are generally made to borrowers “with FICO scores well above the conforming threshold of 660 but that have higher than conforming loan-to value or debt-to-income ratios or less than full documentation/verification of their income and assets.”).

²⁵⁷ Chomsisengphet & Pennington-Cross, *supra* note 214, at 37 tbl.3. The decline in subprime originations in 2000 was due to the disruption in the securitization markets that followed the Asian debt crisis of 1998. *Id.* at 40–41; see also MUOLO & PADILLA, *supra* note 214, at 42–46, 158, 184.

²⁵⁸ Ashcraft & Schuermann, *supra* note 83, at 2 tbl.1.

²⁵⁹ *Id.*

²⁶⁰ Mayer et al., *supra* note 253, at 29 tbl.1.

²⁶¹ Compare Ashcraft & Schuermann, *supra* note 253, at 2 tbl.1, with Gorton, *supra* note 87, at 18 tbl.4.

²⁶² McCoy Testimony, *supra* note 251, at 8; Ryan, *supra* note 253, at 8–9; see also *supra* note 191 and accompanying text (discussing the FRB’s policy of cutting interest rates between 2001 and 2003).

²⁶³ McCoy Testimony, *supra* note 251, at 8; Ryan, *supra* note 256, at 9.

originations.²⁶⁴

An increasing trend toward “private label” securitization spurred this rapid growth in nonprime mortgage lending between 2001 and 2006. The share of subprime mortgages packaged into RMBS increased from 50.4% to 80.5% during that period, while the share of securitized Alt-A mortgages grew from 19% to 91%.²⁶⁵ Virtually all of the RMBS backed by nonprime mortgages were “private label” securities underwritten by large financial conglomerates.²⁶⁶

The role of LCFIs in the nonprime mortgage market was not limited to securitization. Beginning in the late 1990s, several LCFIs established major positions as direct lenders for subprime and Alt-A mortgages. Before 1998, most subprime lenders were nonbank finance companies. Those nonbank lenders relied on warehouse lines of credit from LCFIs to fund their mortgage origination activities, and they sold their loans to LCFIs for securitization.²⁶⁷ However, the Asian and Russian financial crises in 1997 and 1998 disrupted the securitization markets, and many of the nonbank subprime lenders either failed or decided to sell out to large, federally-chartered banks or securities firms.²⁶⁸

For example, Washington Mutual (Wamu)—the largest U.S. thrift—purchased Long Beach Mortgage in 1999, Citigroup bought Associates First Capital (Associates) in 2000, Chase acquired Advanta in 2001, Lehman acquired two subprime lenders in 2000 and 2001, and HSBC acquired Household International in 2002.²⁶⁹ Citigroup and HSBC made their acquisitions despite the fact that (i) Associates was the subject of a federal investigation and ultimately paid a large civil penalty to settle charges of predatory lending, and (ii) Household had paid almost \$500 million to settle charges of predatory lending filed by more than a dozen

²⁶⁴ Compare Ashcraft & Schuermann, *supra* note 83, at 2 tbl.1 (providing figures for subprime and Alt-A loans from 2004 to 2006), with Gorton, *supra* note 87, at 18 tbl.4 (providing figures for total mortgage originations between 2004 and 2006).

²⁶⁵ Ashcraft & Schuermann, *supra* note 83, at 2 tbl.1 (providing figures for Alt-A mortgages); Gorton, *supra* note 87, at 18 tbl.4 (providing data for subprime mortgages).

²⁶⁶ See Engel & McCoy, *supra* note 84, at 2045–48, 2065; Peterson, *Predatory Finance*, *supra* note 85, at 2221–25; see also Bethel et al., *supra* note 85, at 11, 73 tbl.2 (identifying major underwriters of private label RMBS); *infra* note 280 and accompanying text (same).

²⁶⁷ MUOLO & PADILLA, *supra* note 214, at 42–46, 57–60, 76–80, 153–58; Chomsisengphet & Pennington-Cross, *supra* note 214, at 39 tbl.5, 40 (showing leading subprime lenders in 1996). Bear Stearns was the only LCFI that acquired a subprime mortgage lender before the mid-1990s. MUOLO & PADILLA, *supra* note 214, at 237.

²⁶⁸ MUOLO & PADILLA, *supra* note 214, at 45, 81, 85, 128; Chomsisengphet & Pennington-Cross, *supra* note 214, at 40; Michael Hudson, *Debt Bomb: Lending a Hand: How Wall Street Stoked the Mortgage Meltdown*, WALL ST. J., June 27, 2007, at A1, available at LEXIS, News Library, WSJNL File; Brenda B. White, *A Short History of Subprime*, MORTGAGE BANKING, Mar. 1, 2006, at 18.

²⁶⁹ MUOLO & PADILLA, *supra* note 214, at 80–81, 85; Chomsisengphet & Pennington-Cross, *supra* note 214, at 40; Hudson, *supra* note 268; White, *supra* note 268, at 18.

states.²⁷⁰ Similarly, National City, a large Midwestern bank, acquired First Franklin, a major subprime lender in 1999.²⁷¹ Meanwhile, Countrywide, the nation's largest mortgage lender, became a bank holding company when it acquired a national bank in 2001. Countrywide also established a securitization unit and expanded aggressively into subprime and Alt-A lending.²⁷²

LCFIs made a second round of purchases of nonbank subprime lenders in 2006 and 2007, as nonbank lenders encountered increasing problems with delinquencies and defaults. Bear Stearns acquired Encore Credit, Morgan Stanley purchased Saxon Mortgage, Deutsche bought MortgageIT, and Citigroup bought Argent.²⁷³ The acquiring LCFIs essentially wagered that they could squeeze more fees and profits out of the subprime lending business through "vertical integration"—i.e., by taking over the direct lending function as well as the securitization process for nonprime loans.²⁷⁴

The foregoing acquisitions enabled LCFIs to establish leading positions as direct subprime lenders. After 2000, large national banks and federal thrifts represented half or more of the top ten subprime lenders.²⁷⁵ Depository institutions and their subsidiaries and affiliates accounted for about half of nonprime loans originated in 2004 and 2005, 54% in 2006,

²⁷⁰ After acquiring Associates, Citigroup paid \$215 million to settle predatory lending charges filed by the Federal Trade Commission against the subprime lender. For discussions of the charges filed against Associates First Capital and Household, see Forrester, *supra* note 252, at 1304–06; Wilmarth, *supra* note 243, at 314–15; Erik Portanger et al., *Buying American: HSBC to Acquire Lender in Big Bet on U.S. Economy*, WALL ST. J., Nov. 15, 2002, at A1, available at LEXIS, News Library, WSJNL File.

²⁷¹ MUOLO & PADILLA, *supra* note 214, at 23.

²⁷² *Id.* at 64–67, 112–25. Countrywide switched its national bank charter to a federal thrift charter in March 2007. Countrywide's chairman, Angelo Mozilo, declared that a federal thrift charter would create "a more efficient capital structure" by taking advantage of "federal preemption." Harry Terris, *Countrywide Preps 'Major' Capital Shift*, AM. BANKER, May 15, 2007, at 1, available at LEXIS, News Library, AMBNKR File. Later reports indicated that Countrywide shifted to a federal thrift charter because the OTS promised "more flexible" and "less antagonistic" supervision of Countrywide's lending operations. Appelbaum & Nakashima, *supra* note 254; see also McCoy Testimony, *supra* note 251, at 16 (discussing Countrywide's switch from OCC to OTS regulation).

²⁷³ In addition, Merrill Lynch purchased First Franklin from National City. MUOLO & PADILLA, *supra* note 214, at 23–25, 99–100, 146, 195–200; Harry Terris, *Citi-ACC: A Bet Vertical Integration Still Has Legs*, AM. BANKER, Sept. 13, 2007, at 1, available at LEXIS, News Library, AMBNKR File (discussing Citigroup's purchase of ACC Capital Holdings).

²⁷⁴ MUOLO & PADILLA, *supra* note 214, at 23–26, 195, 199–201, 222–23; Todd Davenport, *What's Behind Wall Street Players' Mortgage Deals*, AM. BANKER, Aug. 14, 2006, at 1, available at LEXIS, News Library, AMBNKR File; Terris, *supra* note 273.

²⁷⁵ Chomsisengphet & Pennington-Cross, *supra* note 214, at 39 tbl.5 (showing that Citifinancial (Citigroup), Wamu, Countrywide, First Franklin (National City), and BofA ranked among the top-ten subprime lenders in 2001, while the same banks (except for BofA), Household (HSBC) and Wells Fargo were among the top-ten subprime lenders in 2002 and 2003); Ashcraft & Schuermann, *supra* note 83, at 4 tbl.2 (showing that HSBC, Countrywide, Citigroup, Wells Fargo and First Franklin were among the top ten subprime lenders in 2005 and 2006); Paul Muolo, *Top Subprime Lenders in 2007*, NAT'L MORTGAGE NEWS, May 12, 2008, at 1, available at LEXIS, News Library, NMN File (reporting that Countrywide, Wells Fargo, Chase, Wamu and Citifinancial ranked among the top-ten subprime lenders in 2007); see also MUOLO & PADILLA, *supra* note 214, at 100 (stating that eight of the top fifteen subprime lenders were owned by banks at the beginning of 2006).

and 79% in 2007.²⁷⁶ The increasing shift in subprime loan originations to federally-chartered banks was due in part to the growing importance of federal preemption. Preemption shielded federally-chartered institutions from state predatory lending laws, while unaffiliated nonbank lenders remained subject to state laws.²⁷⁷

LCFIs also played essential roles as warehouse lenders and securitizers for nonbank subprime lenders. Bear Stearns, Deutsche, Lehman and Salomon Brothers provided warehouse lines of credit and securitization services to nonbank lenders during the 1990s.²⁷⁸ The largest nonbank lenders for subprime loans between 2001 and 2007—including Ameriquest, New Century and Option One—similarly relied on Wall Street firms and other LCFIs for warehouse loans and securitization services.²⁷⁹ The leading securitizers (i.e., underwriters) of RMBS between 2004 and 2007 included most of the world’s leading financial conglomerates as well as Countrywide and Wamu, two of the largest U.S. mortgage lenders.²⁸⁰

The big RMBS underwriters essentially dictated the flow of nonprime lending by aggressively soliciting new loans from nonbank lenders and by providing warehouse loans to those lenders on generous terms.²⁸¹ For

²⁷⁶ Robert B. Avery et al., *The 2007 HMDA Data*, FED. RES. BULL., Dec. 2008, at A107, A124–25 & tbl.11, available at www.federalreserve.gov/pubs/bulletin/2008/default.htm (showing percentages of “higher-priced” loans made in each year by depository institutions and their subsidiaries and affiliates); see also *id.* at A107 n.7 (explaining that the “higher-priced” loans covered in the study generally fall into the subprime or Alt-A categories).

²⁷⁷ McCoy Testimony, *supra* note 251, at 12–16; see also *supra* notes 238–55 and accompanying text (discussing federal preemption of state predatory lending laws).

²⁷⁸ MUOLO & PADILLA, *supra* note 214, at 39–43, 152–55.

²⁷⁹ *Id.* at 96, 100, 152–55, 164–66, 183–84; see also Ashcraft & Schuermann, *supra* note 83, at 4 tbl.2 (showing that New Century, Ameriquest and Option One ranked among the top ten subprime lenders between 2005 and 2006); Forrester, *supra* note 252, at 1350–51 (noting the significant role played by federally-chartered banks in providing warehouse loans and securitization services to nonbank subprime lenders).

²⁸⁰ Allison Pyburn, *Bear Stearns Heads RMBS League Tables Again*, ASSET SECURITIZATION REP., Jan. 8, 2007 (reporting that Bear Stearns, Lehman, RBS, Credit Suisse and Chase were the top five RMBS underwriters in 2006, while Countrywide was also a significant RMBS underwriter in 2005 and 2006); Allison Pyburn, *RMBS Grows a Robust \$200 bn in 2005, with Bear Top Arranger*, ASSET SECURITIZATION REP., Jan. 9, 2006 (stating that Bear Stearns, Lehman, RBS, UBS and Credit Suisse were the top five RMBS underwriters in 2005); Carolyn Sargent & Karen Sibayan, *Bear Stearns Replaces UBS in Year End Leagues*, ASSET SECURITIZATION REP., Jan. 10, 2005, available at LEXIS, News Library, ASTRPT File (reporting that Bear Stearns, UBS, Lehman, BofA, Credit Suisse, Morgan Stanley, Citigroup, Goldman, RBS and Deutsche were the top 10 RMBS underwriters in 2004); Bethel et al., *supra* note 85, at 73 tbl.2 (showing that Lehman, Bear Stearns, Morgan Stanley, Chase, Credit Suisse, BofA, Deutsche, RBS, Merrill, Goldman, Citigroup, UBS, Wamu, Countrywide, Wachovia, Barclays and HSBC were the top 17 RMBS underwriters in 2007); see also *supra* notes 234–35, 129–30 (identifying Countrywide and Wamu as leading mortgage lenders and identifying the other institutions named in this footnote as ranking among the world’s top financial conglomerates).

²⁸¹ MUOLO & PADILLA, *supra* note 214, at 115–16, 166, 180–91; see also *id.* at 295 (noting that loan brokers “wouldn’t exist without [nonbank wholesale lenders] and wholesalers wouldn’t be able to fund loans unless Wall Street was buying”); Engel & McCoy, *supra* note 84, at 2065 (referring to the “Unholy Alliance” between nonbank lenders and LCFIs).

example, Citigroup, Morgan Stanley, BofA, Bear Stearns, Deutsche and Credit Suisse provided New Century with \$15 billion in warehouse lines of credit in 2005.²⁸² In late 2006 and 2007, New Century and dozens of other nonbank lenders failed when LCFIs cut off their warehouse lines of credit and demanded that they repurchase loans that had defaulted soon after origination.²⁸³

Thus, in addition to their role as direct nonprime lenders, LCFIs provided “fuel to fire the origination machine [for] the subprime industry” by providing warehouse lines of credit to nonbank lenders and securitizing their loans.²⁸⁴ When LCFIs terminated their warehouse lending programs for nonprime loans, the nonprime lending boom collapsed. In 2007, the volume of new subprime loans fell to \$180 billion, a seventy percent drop from its peak in 2005 and 2006.²⁸⁵ Very few subprime and Alt-A loans were originated after mid-2007. LCFIs could not securitize those loans (and therefore shut off their remaining warehouse lines of credit to nonbank lenders) after the outbreak of the subprime financial crisis in August 2007.²⁸⁶

b. The Riskiness of Nonprime Loans Steadily Increased during the Recent Housing Boom

The risks of nonprime mortgages intensified during the subprime lending boom. Several empirical studies have confirmed that a continuous decline in lending standards for subprime mortgages occurred during this period. Those studies also establish strong links between the deterioration in lending standards and the rise in delinquency and default rates for nonprime loans originated after 2001.²⁸⁷ Delinquency and default rates on

²⁸² MUOLO & PADILLA, *supra* note 214, at 166.

²⁸³ *Id.* at 171–77, 198–201; Carrick Mollenkamp et al., *Mortgage Hot Potatoes: Banks Try to Return High-Risk Loans to the Originators*, WALL ST. J., Feb. 15, 2007, at A4, available at LEXIS, News Library, WSJNL File.

²⁸⁴ MUOLO & PADILLA, *supra* note 214, at 184; see also Lingling Wei, *Subprime Lenders May Face Funding Crisis*, WALL ST. J., Jan. 10, 2007, at B12, available at LEXIS, News Library, WSJNL File (describing the dependence of nonbank mortgage companies on warehouse lines of credit from LCFIs); Arthur E. Wilmarth, Jr., *Viewpoint: Agencies Can't Deny Subprime Culpability*, AM. BANKER, Oct. 12, 2007, at 11, available at LEXIS, News Library, AMBNKR File (pointing out that (i) “wholesale lenders and securitizers, including many of the largest national banks and federal thrifts and their affiliates, were the driving forces behind the subprime lending boom,” and (ii) “[w]hen wholesale lenders and securitizers stopped financing nondepository lenders, the lenders quickly went out of business”).

²⁸⁵ Paul Muolo, *2007 Subprime Off 70%*, NAT'L MORTGAGE NEWS, May 12, 2008, at 1, available at LEXIS, News Library, NMN File.

²⁸⁶ *Id.*; see also MUOLO & PADILLA, *supra* note 214, at 1–2, 5–21, 176–77, 199–203, 242–47, 250–69, 274; Mayer et al., *supra* note 256, at 28 (noting that “[n]onprime lending leveled off in 2006, dropped dramatically in the first half of 2007, and became virtually nonexistent through most of 2008”).

²⁸⁷ See generally Mayer et al., *supra* note 256; Patrick Bajari et al., *An Empirical Model of Subprime Mortgage Default from 2000 to 2007*, at 5–6, 26–27, 31–34 (Nat'l Bur. Econ. Res., Working Paper No. 14625, 2008), available at <http://www.nber.org>; Yuliya Demyanyk & Otto Van Hemert,

subprime mortgages increased every year after 2001, reflecting a “monotonic deterioration in loan quality.”²⁸⁸

The increasing risks of nonprime mortgages were reflected in four key characteristics. First, the percentages of nonprime mortgages with second (piggyback) loans rose sharply between 2003 and 2006.²⁸⁹ Piggyback loans enabled nonprime borrowers to borrow up to the full appraised value of their homes without obtaining purchase mortgage insurance.²⁹⁰ Due to the growing use of second loans, a majority of subprime and Alt-A mortgages originated in 2006 had combined loan-to-value (CLTV) ratios of more than 80%.²⁹¹

Second, the percentage of nonprime loans originated with less than full documentation of the borrower’s income or assets increased significantly between 2003 and 2006.²⁹² Low- and no-documentation loans did not require borrowers to verify their ability to pay their debts. Instead, lenders extended such loans based primarily on the borrowers’ FICO credit scores. Such loans enabled borrowers (often with encouragement from loan officers or brokers) to fabricate their income and assets.²⁹³

Third, the percentage of nonprime mortgages with adjustable interest rates (ARMs) rose substantially from 2003 to 2006.²⁹⁴ In contrast to fixed-rate mortgages, ARMs exposed borrower to “payment shock” each time

Understanding the Subprime Mortgage Crisis (Dec. 5, 2008), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1020396; Giovanni Dell’Ariccia et al., *Credit Booms and Lending Standards: Evidence from the Subprime Mortgage Market* (Feb. 2008), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1100138; Atif Mian & Amir Sufi, *The Consequences of Mortgage Credit Expansion: Evidence from the 2007 Mortgage Default Crisis* (Nat’l Bur. Econ. Res., Working Paper No. 13936, 2008), available at <http://www.nber.org>.

²⁸⁸ Demyanyk & Van Helmert, *supra* note 287, at 3 & fig.2; see also Mayer et al., *supra* note 256, at 40–42 & fig.2.

²⁸⁹ Compare McCoy Testimony, *supra* note 251, at 5 fig.2 (showing that subprime loans with second loans increased from 10% in 2003 to 31% in 2006, while Alt-A loans with second loans rose from 23% to 55%), with Mayer et al., *supra* note 256, at 32 tbl.2, Panel C (reporting that subprime loans with piggyback loans increased from 7% in 2003 to 28% in 2006, while Alt-A loans with piggybacks increased from 12% to 42%).

²⁹⁰ Avery et al., *supra* note 276, at A111, A117.

²⁹¹ McCoy Testimony, *supra* note 251, at 5 fig.2 (showing that the percentage of subprime loans with CLTV ratios above 80% increased from 56% in 2003 to 64% in 2006, while the share of similar Alt-A loans rose from 33% to 55%).

²⁹² Compare McCoy Testimony, *supra* note 251, at 5 fig.2 (showing that the percentage of subprime loans with less than full documentation rose from 36% in 2003 to 45% in 2006, while the share of similar Alt-A loans grew from 72% to 81%), with Mayer et al., *supra* note 256, at 32 tbl.2, Panel C (reporting that the percentage of subprime loans with less than full documentation increased from 32% in 2003 to 38% in 2006, while the share of similar Alt-A loans rose from 63% to 80%).

²⁹³ MUOLO & PADILLA, *supra* note 214, at 86–87, 123–25, 158–62, 197; Dan Levy & Bob Ivry, *Alt-A Mortgages Next Risk for Housing Market as Defaults Surge*, BLOOMBERG.COM, Sept. 12, 2008. The use of FICO credit scores to measure the creditworthiness of borrowers became “standard practice” in the mortgage industry in the 1990s. MUOLO & PADILLA, *supra* note 214, at 41 & n.6.

²⁹⁴ Mayer et al., *supra* note 256, at 31 tbl.2 (showing that the subprime ARMS as a percentage of all subprime mortgages rose from 70% in 2003 to 80% in 2006, while Alt-A ARMS as a percentage of all Alt-A mortgages increased from 31% to 61%).

the interest rates on their mortgages reset.²⁹⁵ More than three-quarters of the subprime mortgages originated during this period were ARMs known as “2/28” and “3/27” loans. Those loans offered a fixed “teaser” rate of interest for either two or three years. After the teaser rate period ended, the interest rates on 2/28 and 3/27 loans adjusted periodically (usually every six months).²⁹⁶ Teaser rates for 2/28 and 3/27 loans were higher than interest rates on conforming fixed-rate mortgages, and periodic resets on such loans usually produced interest rate increases of several percentage points over the life of the loans.²⁹⁷ Alt-A ARMs were usually structured as 5/25 loans, with a smaller portion structured as 2/28 or 3/27 loans.²⁹⁸ As a practical matter, the interest rate escalation schedules for nonprime ARMs put considerable pressure on borrowers to refinance their loans before the end of the teaser rate period.²⁹⁹

Fourth, the percentage of “interest only” (IO) ARM subprime loans increased significantly from 2003 to 2006, as did the share of Alt-A loans that were either IO ARMs or “option ARMs.”³⁰⁰ IO ARMs and option ARMs allowed borrowers to defer any payment of principal on their loans during the early years of their loans. IO ARMs and option ARMs therefore left borrowers with little or no equity when they needed to refinance at the end of the teaser period, unless the market value of their homes had risen significantly after they took out their mortgages. Lenders were unlikely to allow nonprime borrowers to refinance their loans if their homes did not contain a substantial amount of residual equity.³⁰¹

Lacking any effective restraint from federal regulators, nonprime lenders extended huge volumes of nonprime ARMs with high-risk features

²⁹⁵ Ashcraft & Schuermann, *supra* note 83, at 16–17.

²⁹⁶ *Id.*; Mayer et al., *supra* note 256, at 30, 31 tbl.2.

²⁹⁷ Ashcraft & Schuermann, *supra* note 83, at 16, 18 tbl.6 (showing that interest rates for 2/28 and 3/27 loans originated by New Century in 2006 were scheduled to increase by 7% over the life of the loans); Mayer et al., *supra* note 256, at 32 tbl.2, Panel D (showing that teaser rates for 2/28 and 3/27 subprime loans averaged 7.7% from 2003 to 2007).

²⁹⁸ Ashcraft & Schuermann, *supra* note 83, at 20 tbl.9.

²⁹⁹ *Id.* at 16–18; Bar-Gill & Warren, *supra* note 242, at 53–54; Gorton, *supra* note 87, at 16–17.

³⁰⁰ Mayer et al., *supra* note 256, at 32 tbl.2, Panel C (showing that the percentage of IO subprime loans increased from 2% in 2003 to 13% in 2006, while the share of IO Alt-A loans increased from 16% to 44% and the portion of Alt-A loans allowing negative amortization rose from 2% to 26%). IO ARMs permit borrowers to pay only the accrued interest and to defer payments of principal for a period of up to five years. An option ARM permits the borrower to choose among several payment plans, including a negative amortization plan that allows the borrower to pay no principal and less than the accrued interest until the loan reaches 110% or 120% of its original amount, or for up to five years. MUOLO & PADILLA, *supra* note 214, at 124; Ashcraft & Schuermann, *supra* note 83, at 17; Levy & Ivry, *supra* note 293; Mayer et al., *supra* note 256, at 33.

³⁰¹ Ashcraft & Schuermann, *supra* note 83, at 17–18, 23; Mayer et al., *supra* note 256, at 38–40. Nonprime borrowers typically needed to accumulate additional equity in their homes in order to refinance their loans, because nonprime lenders required refinancings to satisfy CLTV ratios that were lower than the ratios applied to purchase transactions. *See id.* at 31 tbl.2, Panel B (showing that the average CLTV ratios for subprime and Alt-A purchase loans from 2003 to 2007 were 95% and 90%, respectively, while the average CLTV ratios for subprime and Alt-A refinancing loans were 80% and 76%, respectively).

to “millions of Americans who had little or no chance of making payments on those loans to maturity.”³⁰² This lending strategy “effectively turned the U.S. housing market into a system of Ponzi finance, where new debt was needed to service the old,” and such a system could only last as long as housing prices kept rising.³⁰³ The complex design of nonprime ARMs, including multiple interest rate resets and the lack of equity accumulation, meant that borrowers were likely to default if they could not refinance before the teaser period expired.³⁰⁴ While the housing boom lasted, many nonprime borrowers refinanced their loans (several times, in some cases) by taking out new ARMs with similar teaser rate and interest escalation features.³⁰⁵ Half of the Alt-A mortgages and nearly two-thirds of the

³⁰² FLECKENSTEIN & SHEEHAN, *supra* note 273, at 157–59, 176–77 (quoting report by Robert Campbell). A few federal officials expressed concerns about the growing volumes of nonprime ARMs that were made without regard to the borrower’s ability to pay beyond the initial teaser rate period. See Edmund L. Andrews, *Fed and Regulators Shrugged as the Subprime Crisis Spread*, N.Y. TIMES, Dec. 18, 2007, at A1 (citing concerns expressed by FRB Governor Edward Gramlich and Treasury Assistant Secretary Sheila Bair during 2000–2002). However, federal agencies did not adopt any official warnings about the dangers of high-risk ARMs until September 2006, when they issued joint “guidance” about option ARMs. Federal agencies issued broader “guidance” in June 2007 concerning the need to underwrite ARMs based on the borrowers’ ability to pay the fully amortized interest rate instead of the teaser rate. *Id.*; see also McCoy Testimony, *supra* note 251, at 15 & n.41, 17–20 (“IndyMac, WaMu, and Downey apparently treated the guidances as solely advisory, however, as evidenced by the fact that all three made substantial numbers of hazardous loans in late 2006 and in 2007 in direct disregard of an interagency guidance on nontraditional mortgages issued in the fall of 2006 and subscribed to by OTS that prescribed underwriting ARMs to the fully indexed rate.”). Nevertheless, several large national banks and federal thrifts, which were leading nonprime lenders, apparently ignored the agencies’ nonbinding guidance and continued to make high-risk option ARMs and subprime loans. Federal agencies did not adopt binding regulations, which required subprime lenders to verify the borrower’s ability to pay the fully amortized interest rate, until June 2008. See McCoy Testimony, *supra* note 251, at 16–22; see also MUOLO & PADILLA, *supra* note 214, at 215, 218 (describing a speech given by Lewis Ranieri at a “Housing Summit” hosted by the OTS on Dec. 11, 2006, in which Ranieri warned that “about 40 percent” of the option ARMs being sold in the secondary market did not satisfy the federal regulators’ 2006 guidance, which had “no teeth” in any case).

³⁰³ FLECKENSTEIN & SHEEHAN, *supra* note 173, at 177 (quoting report by Robert Campbell). See Jose Gabilondo, *Leveraged Liquidity: Bear Raids and Junk Loans in the New Credit Market*, FIU Leg. Stud. Res. Paper Ser. Res. Paper No. 08-01, Oct. 2008, at 26–27 (noting economist Hyman Minsky’s description of “Ponzi financing” as a lending arrangement in which the borrower must refinance the loan in order to pay both principal and accrued interest), available at <http://ssrn.com/abstract=1141955>.

³⁰⁴ See Ashcraft & Schuermann, *supra* note 83, at 16–18 (“Without significant income growth over the first two years of the loan, it seems reasonable to expect that borrowers will struggle to make these higher payments. It begs the question why such a loan was made in the first place.”); Gorton, *supra* note 87, at 13, 16–17, 32 (“The ability of subprime and Alt-A borrowers to sustain their mortgage payments depends heavily on house price appreciation because of the need for refinancing”); McCoy Testimony, *supra* note 251, at 8–9 (“Chief among those risks was payment shock—in other words, the risk that monthly payments would rise dramatically upon rate reset.”).

³⁰⁵ See FLECKENSTEIN & SHEEHAN, *supra* note 173, at 154–55 MORRIS, *supra* note 172, at 68–69; Ashcraft & Schuermann, *supra* note 83, at 16–18, 21–23; Gorton, *supra* note 87, at 13, 16–17, 32; see also Yuliya S. Demyanyk, *Quick Exits of Subprime Mortgages*, 91(2) FED. RES. BANK OF ST. LOUIS REV., 79, 89–91 (finding that subprime mortgages originated during 2001–06 were terminated by refinancing or default at a rate of 50% within two years and 80% within three years), available at <http://research.stlouisfed.org/publications/review/09/03/Demyanyk.pdf>. In one extreme case involving an elderly woman in Hackensack, New Jersey, subprime lenders refinanced her mortgage thirteen times between December 1999 and January 2007. The refinancings were all performed on a “no doc” basis and increased the outstanding principal amount from \$142,000 to \$544,000. The subprime lenders

subprime mortgages originated between 2003 and 2007 were refinancings of existing loans.³⁰⁶

Housing prices rose rapidly from 2001 to 2005, stopped rising in 2006, and began to fall sharply in 2007. At that point, refinancing options disappeared for many nonprime borrowers. Defaults and delinquencies accelerated on nonprime loans, and the lending and securitization markets essentially shut down for those loans. By the end of 2008, nearly a quarter of subprime mortgages were seriously delinquent or in foreclosure, and a fifth of homeowners with mortgages were in a “negative-equity position.”³⁰⁷ The virtually simultaneous collapse of housing prices and nonprime lending shows that (i) the housing boom was an artificial bubble created by increasingly risky loans extended to nonprime borrowers; and (ii) the housing bubble was doomed to burst as soon as nonprime borrowers were no longer able to refinance their crushing debt burdens.³⁰⁸

c. Securitization of Nonprime Mortgages Created Conflicts of Interest that Encouraged Higher-Risk Lending Practices

As previously discussed, the securitized share of nonprime loans increased significantly between 2001 and 2006, during the same period when lending standards were declining.³⁰⁹ Five studies have confirmed the linkage between higher levels of securitization and higher-risk lending. Two studies concluded that lenders were more likely to use lax screening methods when they made loans that were likely to be securitized.³¹⁰ A

included several LCFIs—“Wells Fargo, Wachovia, IndyMac, Countrywide, . . . Washington Mutual, [and] Chase”—as well as nonbank lenders (“Ameriquest, American Brokers Conduit, [and] American Home Mortgage Service”). Abby Aguirre, *The Neediest Cases: After a Nightmare of Refinancing*, *Hope*, N.Y. TIMES, Nov. 9, 2008, at A47.

³⁰⁶ Mayer et al., *supra* note 256, at 32 tbl.2, Panel C (showing that 37% of subprime mortgages and 50% of Alt-A mortgages during 2003–2007 were purchase loans); *see also* Demyanyk, *supra* note 305, at 83–84, 89–90 (stating that 60% to 70% of a large sample of subprime loans outstanding in 2008 were refinancings of previous subprime loans).

³⁰⁷ Kate Berry, *Fifth of First- and 2d-Lien Loans Said Underwater*, AM. BANKER, Mar. 5, 2009, at 11; Paul Muolo, *MBA Reports a Record Jump in National Delinquency Rate*, AM. BANKER, Mar. 6, 2009, at 11. For discussions of the collapse of housing prices and refinancing opportunities after 2006, *see, for example*, Gorton, *supra* note 87, at 31–32; Gregory A. Krohn & William R. Gruver, *The Complexities of the Financial Turmoil of 2007 and 2008* 4–5 (Bucknell Univ. Working Paper Group, Paper 10, 2008), *available at* <http://ssrn.com/abstract=1282250>; *see also* *supra* notes 285–86 and accompanying text (discussing the collapse of the nonprime lending and securitization markets in mid-2007).

³⁰⁸ FLECKENSTEIN & SHEEHAN, *supra* note 173, at 168–78; MORRIS, *supra* note 172, at 65–72; Demyanyk & Van Helmert, *supra* note 287, at 1–8, 28–29; Mian & Sufi, *supra* note 287, at 1–6, 31–33; *see also* Demyanyk, *supra* note 305, at 89–91 (finding that subprime borrowers were able to refinance their loans during the rapid appreciation of home prices during 2003–2004, but subprime defaults rose sharply during 2006–2007 when housing prices stopped rising and borrowers were no longer able to refinance).

³⁰⁹ *See supra* note 265 and accompanying text.

³¹⁰ *See* Uday Rajan et al., *The Failure of Models that Predict Failure: Distance, Incentives and Defaults*, 1–3, 25–28 (Stephen M. Ross School of Business at the University of Michigan, Research Paper No. 1122, 2008), *available at* papers.ssrn.com/sol3/papers.cfm?abstract_id=1296982 (finding

third study found that subprime lending standards declined significantly in metropolitan areas that experienced entry by large, out-of-market financial institutions and other lenders that securitized a larger percentage of their loans.³¹¹ A fourth study found that communities received higher-risk subprime loans and recorded higher default rates if lenders to those communities sold off a higher percentage of those loans for securitization.³¹² A fifth study determined that banks which securitized a higher percentage of their mortgages during 2006 and 2007 subsequently reported significantly higher foreclosure rates and charge-offs on those loans.³¹³

Conflicts of interest created by the OTD model provide the most likely explanation for the links between securitization, higher-risk loans and rising default rates. Lenders had perverse incentives to originate high-risk nonprime loans for securitization, because they could earn significantly higher fees if they sold nonprime loans that were packaged into private label RMBS, compared with prime conforming loans that were packaged into GSE-issued RMBS. In turn, lenders offered generous incentives (including larger commissions and yield-spread premiums) to encourage their loan officers and brokers to generate nonprime loans instead of prime conforming loans.³¹⁴ As long as housing prices continued to rise, lenders were generally able to transfer the risks inherent in nonprime loans by selling them for securitization.³¹⁵

that, as the securitized share of subprime loans increased from 2001 to 2006, lenders and RMBS underwriters relied almost exclusively on “hard information” such as borrowers’ FICO scores and stopped gathering “soft information” about income or assets, with the result that the lenders’ and underwriters’ risk models became increasingly unreliable); Benjamin Keys et al., *Did Securitization Lead to Lax Screening? Evidence from Subprime Loans 2–4*, 20–23 (December 25, 2008) (unpublished manuscript), available at <http://ssrn.com/abstract=1093137> (finding that subprime loans to borrowers with FICO scores slightly above 620—the widely accepted minimum score for securitized loans—defaulted at a 20% higher rate than similar loans made to borrowers with lower FICO scores, because the latter loans were typically held on the lenders’ balance sheets and involved greater screening by the lenders).

³¹¹ See Dell’Ariccia et al., *supra* note 287, at 2, 23–28.

³¹² See Mian & Sufi, *supra* note 287, at 3–5, 27–30.

³¹³ Purnanandam, *supra* note 131, at 2–5, 13–17, 21–22.

³¹⁴ See MUOLO & PADILLA, *supra* note 214, at 64–69, 82–87, 120–25, 263–65; Peter S. Goodman & Gretchen Morgenson, *Saying Yes to Anyone: WaMu Built Empire on Shaky Loans*, N.Y. TIMES, Dec. 28, 2008, at A1 (“WaMu gave mortgage brokers handsome commissions for selling the riskiest loans, which carried higher fees, bolstering profits and ultimately the compensation of the bank’s executives”); Gretchen Morgenson, *Inside the Countrywide Lending Spree*, N.Y. TIMES, Aug. 26, 2007, § 3, at 1 (“The company’s incentive system . . . encouraged brokers and sales representatives to move borrowers into the subprime category, even if their financial position meant that they belonged higher up the loan spectrum.”). Lenders and loan brokers frequently misled unsophisticated nonprime borrowers as to the true cost of their loans. For example, the lender or broker could focus the borrower’s attention on the low introductory teaser rate (and low monthly payment) offered by 2/28 and 3/27 ARMs, while the lender’s or broker’s extra compensation remained hidden in a complex maze of terms. McCoy Testimony, *supra* note 251, at 8–11.

³¹⁵ See Engel & McCoy, *supra* note 84, at 2041; Günter Franke & Jan Pieter Krahen, *The Future of Securitization* 11, 17–18 (Ctr. For Fin. Studies Working Paper No. 2008/31, 2008), available at

Securitizers (i.e., underwriters of private label RMBS) faced a similar conflict of interest in pooling nonprime loans and selling RMBS to investors. Like the lenders, RMBS underwriters were tempted to engage in adverse selection and sell “lemons” to investors if the underwriters did not retain a significant portion of the risks of the transferred loans.³¹⁶ During the subprime lending boom, as further discussed in the next section, underwriters of nonprime RMBS were successful in transferring the riskiest equity tranches (i.e., the “first loss” tranches) of RMBS to hedge funds and other investors. This development greatly diminished the underwriters’ incentives to control and monitor the risks of loans contained in securitized nonprime pools.³¹⁷ Thus, nonprime lenders and RMBS underwriters faced perverse incentives to maximize their fee income by originating nonprime mortgages and packaging them into RMBS with little regard for the default risks of the underlying loans.³¹⁸

Investors in private label RMBS relied on the underwriters to perform due diligence to ensure that the securitized loans would not experience excessive default rates.³¹⁹ During the housing boom, investors had very limited opportunities to perform their own due diligence. A significant percentage of nonprime RMBS were issued in Rule 144A private placement offerings that (i) were sold to institutional investors with limited disclosures and (ii) were quickly arranged and gave investors little time to scrutinize the terms of the offerings.³²⁰ Since most investors did little or no checking for asset quality, RMBS underwriters frequently cut costs and boosted profits by doing minimal due diligence of their own.³²¹

Investors in nonprime RMBS also relied on investment grade credit ratings provided by credit ratings agencies. However, those ratings were solicited and paid for by the underwriters, creating yet another conflict of interest that compromised the protections provided to investors.³²²

http://www.ifk-cfs.de/fileadmin/downloads/publications/wp/08_31.pdf; Purnanandam, *supra* note 313, at 2–3.

³¹⁶ See Engel & McCoy, *supra* note 84, at 2048–50; Ashcraft & Schuermann, *supra* note 83, at 5–7; Franke & Krahn, *supra* note 315, at 10–15.

³¹⁷ See Engel & McCoy, *supra* note 84, at 2065–67; Franke & Krahn, *supra* note 315, at 15–17; see also *infra* Part III.B.3.d.

³¹⁸ See Ashcraft & Schuermann, *supra* note 83, at 5–7; Franke & Krahn, *supra* note 315, at 10–17; Purnanandam, *supra* note 313, at 1–5.

³¹⁹ See Engel & McCoy, *supra* note 84, at 2068–70.

³²⁰ *Id.* at 2070–73; see also MUOLO & PADILLA, *supra* note 214, at 219–20 (noting that nonprime RMBS sold in Rule 144A offerings were “not really public securities that had any genuine scrutiny behind them,” because Rule 144A offerings involved “less paperwork and less scrutiny by the SEC”).

³²¹ MUOLO & PADILLA, *supra* note 214, at 86–87, 122–25, 183–84; Engel & McCoy, *supra* note 84, at 2068–70; Rajan et al., *supra* note 312, at 1–3. Wall Street underwriters of RMBS typically hired outsourcing firms to perform due diligence and then pressured them to do quick, cursory reviews of nonprime loan pools. MUOLO & PADILLA, *supra* note 214, at 228–34, 298–99.

³²² MUOLO & PADILLA, *supra* note 214, at 217, 224, 280–85; Press Release, U.S. Sec. Exch. Comm’n, SEC Examinations Find Shortcomings in Credit Rating Agencies’ Practices and Disclosures to Investors (July 8, 2008), available at <http://www.sec.gov/news/press/2008/2008-135.htm>; see also

Investors who bought senior tranches of RMBS further believed that their investments would be protected by the sequential payment priorities attached to those tranches.³²³ However, as further explained in the next section, investors holding senior tranches of structured-finance products derived from nonprime loans suffered large losses because of their “extreme exposure . . . to declines in aggregate economic conditions (in other words, systematic risk).”³²⁴

Between 2001 and 2007, the amount of outstanding nonprime RMBS increased nearly tenfold, rising from \$160 billion to \$1.5 trillion.³²⁵ RMBS accounted for about three-quarters of the approximately \$2 trillion in nonprime mortgages that were outstanding in 2008.³²⁶ It seems clear in retrospect that the tremendous surge in securitization of nonprime mortgages after 2001 resulted in a steady deterioration of credit standards by both lenders and RMBS underwriters.³²⁷ Above all, it was the dominant RMBS underwriters—the large financial conglomerates—that drove the nonprime lending boom.³²⁸

d. LCFIs Multiplied the Risks of Securitization Through CDOs, CDS and SIVs

Financial conglomerates used structured-finance techniques to create

U.S. SEC. EXCH. COMM’N, SUMMARY REPORT OF ISSUES IDENTIFIED IN THE COMMISSION STAFF’S EXAMINATIONS OF SELECT CREDIT RATING AGENCIES 23–27, 31–32 (2008), available at <http://www.sec.gov/news/studies/2008/craexamination070808.pdf> (finding evidence of “conflicts of interest due to the ‘issuer pays’ model in rating structured finance products”). For studies confirming that conflicts of interest were created by the LCFIs’ payment of fees to credit ratings agencies for assigning investment ratings to nonprime RMBS and related CDOs, see, for example, Patrick Bolton et al., *The Credit Ratings Game passim* (Nat’l Bureau of Econ. Research Working Paper 14712, 2009); Joshua Coval et al., *supra* note 82, at 19–22; Jeffrey Manns, *Rating Risk After the Subprime Mortgage Crisis: A User Fee Approach for Rating Agency Accountability*, N.C. L. REV. (forthcoming) (manuscript at 3–4, 26–34), available at <http://ssrn.com/abstract=1199622>; Frank Partnoy, *How and Why Credit Rating Agencies Are Not Like Other Gatekeepers* (Univ. of San Diego Sch. of Law Leg. Stud. Res. Paper No. 07-46, May 2006) (manuscript at 60, 68–80), available at <http://ssrn.com/abstract=900257>; Roger Lowenstein, *Triple-A Failure*, N.Y. TIMES, Apr. 27, 2008, § MM (Magazine), at 36, available at LEXIS, News Library, NYT File.

³²³ Engel & McCoy, *supra* note 84, at 2047–48, 2060–61; see also *supra* notes 86–87 and accompanying text (discussing the sequential payment priorities and subordination features used in tranching RMBS).

³²⁴ Coval et al., *supra* note 82, at 19–20; see also *infra* Part III.B.3.d.

³²⁵ Gorton, *supra* note 87, at 14 tbl.2; see also Kate Berry, *Bankruptcy Bill Seen Forcing Losses on High-Rated MBS*, AM. BANKER, Feb. 13, 2009, at 1 (citing Barclays’ estimate that \$1.45 trillion of private label (nonagency) RMBS were outstanding).

³²⁶ Levy & Ivry, *supra* note 293 (stating that \$1 trillion of Alt-A mortgages and \$855 billion of subprime mortgages were outstanding); Paul Muolo, *Subprime Overdues Hit 33%*, NAT’L MORTGAGE NEWS, Dec. 8, 2008, at 1 (reporting that \$850 billion of subprime mortgages were outstanding); *Finance & Economics: Mortgage losses: Move Over, Subprime*, ECONOMIST, Feb. 7, 2009 (reporting that \$1.3 trillion of Alt-A mortgages were outstanding).

³²⁷ MUOLO & PADILLA, *supra* note 214, at 166–68, 180–91, 216–25, 254, 263–65, 277–81, 295.

³²⁸ *Id.* at 281 (concluding that, during the nonprime lending boom, “Wall Street was in charge – lending money to nonbank originators (through warehouse lines), buying and securitizing the loans, designing the loan products, and then eventually owning some of the rank-and file lenders”); see also *supra* Part III.B.3.a (reaching same conclusion).

several categories of investment instruments whose risks and returns were derived from nonprime mortgages. As a practical matter, these structured-finance instruments created an inverted pyramid of risk, because the combined face values of the structured-finance instruments (representing the inverted “base” of the pyramid) were much larger than the “apex” of nonprime mortgages whose performance dictated the value of the instruments. Put another way, LCFIs used structured-finance instruments to pile multiple layers of financial bets on top of nonprime mortgages. In addition, while LCFIs spread the risks of those bets among a large universe of investors, LCFIs also retained significant risks in two ways. First, LCFIs “warehoused” nonprime mortgages, RMBS and CDOs until they could be sold to investors. Second, LCFIs transferred RMBS and CDOs to off-balance-sheet structured investment vehicles (SIVs) that relied on explicit or implicit support from the LCFIs. When the subprime crisis broke out, LCFIs incurred large losses from their exposures to “warehoused” instruments and SIVs.

As indicated above, about \$1.5 trillion of nonprime RMBS were outstanding in 2007, accounting for roughly three-quarters of outstanding nonprime mortgages.³²⁹ Eighty percent or more of nonprime RMBS were structured as senior tranches with “AAA” ratings, while approximately eighteen percent were packaged as mezzanine tranches (with investment grade ratings ranging from “BBB-” to “AA+”) and two percent or less were labeled as unrated junior tranches.³³⁰ Credit rating agencies (CRA) agreed to give “AAA” ratings to senior tranches of nonprime RMBS, based on the agencies’ conclusion that senior tranches faced low risks of default due to (i) diversification produced by pooling large numbers of nonprime mortgages from different geographic regions, (ii) credit protection provided to the senior tranches by the subordinated junior and mezzanine tranches, and (iii) additional credit enhancements included in structured-finance RMBS.³³¹ Investors were eager to buy AAA-rated senior tranches of RMBS because they offered significantly higher yields than other types of AAA-rated investments and carried the same imprimatur from the credit rating agencies.³³²

³²⁹ See *supra* notes 325–26 and accompanying text.

³³⁰ APRIL 2008 IMF GFS REPORT, *supra* note 86, at 59–60 (Box 2.2); Gorton, *supra* note 87, at 24 & fig.3; Ashcraft & Schuermann, *supra* note 83, at 30 fig.6 (showing that the “Average Subprime MBS Structure” included nearly eighty percent of “AAA” tranches, while the “Average Alt-A Capital Structure” included more than ninety percent of “AAA” tranches).

³³¹ See Coval et al., *supra* note 82, at 5–7; Gorton, *supra* note 87, at 19–23; Lowenstein, *supra* note 324; *supra* note 87 and accompanying text (describing structuring and credit enhancements for structured-finance RMBS).

³³² TURNER REVIEW, *supra* note 185, at 14–15; APRIL 2008 IMF GFS REPORT, *supra* note 86, at 55, 56–57 (Box 2.1); Paul Mizen, *The Credit Crunch of 2007–2008: A Discussion of the Background, Market Reactions, And Policy Responses*, FED. RESERVE BANK OF ST. LOUIS REV., Sept.–Oct. 2008, at 521, 532, 538, 540, available at <http://research.stlouisfed.org/publications/review/08/09/Mizen.pdf>; Bethel et al., *supra* note 85, at 15–16; see also Ashcraft & Schuermann, *supra* note 83, at 37 (quoting

Financial conglomerates did not stop with nonprime RMBS. They transformed many of the lower-rated tranches of nonprime RMBS into AAA-rated investments by re-securitizing RMBS into ABS CDOs. For example, LCFIs pooled tranches of RMBS rated “A” or above to create “high grade” CDOs. Ninety percent or more of the tranches of high grade CDOs received “AAA” ratings.³³³ LCFIs acted even more aggressively by pooling “BBB” and “BBB-” tranches of RMBS to create “mezzanine CDOs” (so named because their portfolios consisted mainly of mezzanine tranches of RMBS). Approximately three-quarters of the tranches of mezzanine CDOs received “AAA” ratings.³³⁴

Financial conglomerates used the same re-securitization process to transform mezzanine tranches of CDOs into higher-rated securities issued by “CDOs-squared.” Mezzanine tranches of CDOs were pooled and placed in CDOs-squared, which issued tranching securities that consisted primarily of AAA-rated securities. As explained in a 2008 report issued by the International Monetary Fund (IMF), “[m]ost of the A- and BBB-rated CDO tranches [were] recycled into . . . [CDO-squared] securities, about 85 percent of which [were] comprised of AAA-rated senior and super-senior tranches.”³³⁵

LCFIs had two major reasons for transforming mezzanine tranches of nonprime RMBS and CDOs into AAA-rated securities issued by CDOs and CDOs-squared. First, re-securitization allowed LCFIs to create ever-higher percentages of AAA-rated investments based on nonprime mortgages. Many institutional investors (including banks, insurance companies, mutual funds and pension funds) were limited to buying AAA-rated securities by legal requirements or their investment mandates. Such investors were eager to buy AAA-rated CDO and CDO-squared bonds, because their yields were among the highest available on AAA-rated securities.³³⁶

(i) a statement by Moody’s in 2004 affirming the “comparability of [its rating] opinions . . . regardless of . . . [the] asset class, or type of fixed-income debt”; and (ii) a statement by Standard & Poor’s in 2007 declaring that “[o]ur ratings represent a uniform measure of credit quality . . . across all types of debt instruments. In other words, an ‘AAA’ rated corporate bond should exhibit the same degree of credit quality as an ‘AAA’ rated securitized issue”); *supra* note 322 and accompanying text (discussing problems resulting from conflicts of interest faced by credit ratings agencies in assigning investment grade ratings to nonprime RMBS).

³³³ 2008 BASEL CRT REPORT, *supra* note 83, at 4–5, 49; APRIL 2008 IMF GFS REPORT, *supra* note 86, at 59–60 (Box 2); Gorton, *supra* note 87, at 23–24; Gergory A. Krohn & William R. Gruver, *The Complexities of the Financial Turmoil of 2007 and 2008*, at 9 (Working Paper Oct. 7, 2008), available at <http://ssrn.com/abstract=1282250>; see also *supra* note 105 and accompanying text (discussing ABS CDOs).

³³⁴ See authorities cited *supra* note 333.

³³⁵ APRIL 2008 IMF GFS REPORT, *supra* note 86, at 59 (Box 2).

³³⁶ See MORRIS, *supra* note 172, at 76–79, 113; April 2008 IMF GFS Report, *supra* note 86, at 59–60 (Box 2); 2008 BASEL CRT REPORT, *supra* note 83, at 7–9, 42–45; Bethel et al., *supra* note 85, at 15–16; Coval et al., *supra* note 82, at 4, 19; see also Michael Lewis, *The End*, PORTFOLIO (Condé Nast, Inc.), Dec. 2008, available at <http://www.portfolio.com/news-markets/national-news/portfolio/>

Second, mezzanine tranches of RMBS and CDOs were not easy to sell to investors. As noted above, many traditional institutional investors were limited to buying AAA-rated securities, and many hedge funds preferred to buy junior unrated tranches of RMBS and CDOs because those tranches offered the highest yields.³³⁷ Mezzanine tranches of RMBS and CDOs were less attractive to investors, evidently because mezzanine tranches were viewed as too risky in comparison to their yields. However, the risks of mezzanine tranches could be obscured—and the potential universe of investors for such tranches could be greatly expanded—if mezzanine tranches of RMBS and CDOs were repackaged as AAA-rated tranches of CDOs and CDOs-squared.³³⁸

Thus, the ability of LCFIs to re-securitize mezzanine tranches of RMBS and CDOs apparently played an important role in their marketing and distribution of structured-finance RMBS and CDOs. By re-securitizing the mezzanine tranches, LCFIs did not have to retain them on their balance sheets. Nor did they have to retain the junior “first loss” tranches, because hedge funds were eager to buy those tranches. However, LCFIs often retained indirect exposures to the risks of junior tranches of RMBS and CDOs, because LCFIs extended credit to hedge funds to finance their purchases of those tranches. Thus, LCFIs created the illusion that they had transferred all of the risks of the subordinated tranches of RMBS and CDOs, but they often failed to do so in reality.³³⁹

In addition to ABS CDOs, financial conglomerates created hybrid and synthetic CDOs. Hybrid CDOs managed pools of assets that included nonprime RMBS as well as CDS that provided credit protection with respect to the performance of nonprime RMBS or indices based on nonprime RMBS. Synthetic CDOs managed pools consisting entirely of CDS that provided credit protection with reference to the performance of

2008/11/11/The-End-of-Wall-Streets-Boom (quoting hedge fund manager Steve Eisman’s conclusion that the re-securitization of BBB-rated mezzanine tranches of RMBS into AAA-rated tranches of CDOs created an “engine of doom” because AAA-rated CDO bonds could be sold to “investors—pension funds, insurance companies—who were allowed to invest only in highly rated securities”).

³³⁷ See MORRIS, *supra* note 172, at 113–18; BANK FOR INT’L SETTLEMENTS, COMMITTEE ON THE GLOBAL FINANCIAL SYSTEM, RATINGS IN STRUCTURED FINANCE: WHAT WENT WRONG AND WHAT CAN BE DONE TO ADDRESS SHORTCOMINGS? 11 n.16 (CGFS Papers No. 32, July 2008), available at <http://www.bis.org/publ/cgfs32.htm> [hereinafter 2008 CGFS STRUCTURED FINANCE PAPER]; Gorton, *supra* note 87, at 29; Bethel et al., *supra* note 85, at 15–16.

³³⁸ See MORRIS, *supra* note 172, at 79; April 2008 IMF GFS REPORT, *supra* note 86, at 59 (Box 2.2.); Gorton, *supra* note 87, at 25.

³³⁹ See MORRIS, *supra* note 172, at 113–23; see also Carrick Mollenkamp & Serena Ng, *Housing, Bank Troubles Deepen: Hedge Funds Squeezed as Lenders Get Tougher*, WALL ST. J., Mar. 7, 2008, at A1, available at LEXIS, News Library, WSJNL File (reporting that (i) “[l]oans from banks and brokerages had allowed hedge funds, which manage \$1.9 trillion in clients’ money, to amass many times that amount in investments,” and (ii) the recent failure of a London hedge fund had left “14 lenders—including [Deutsche, Goldman, Lehman, Merrill, Morgan Stanley and UBS]—holding as much as \$17 billion in problematic mortgage securities”).

nonprime RMBS or related indices.³⁴⁰ In practical effect, the packaging of CDS into synthetic CDOs enabled LCFIs to create a new class of investments that mimicked the performance of nonprime mortgages, even though the CDOs did not own either the mortgages themselves or nonprime RMBS.³⁴¹

Approximately \$1.5 trillion of CDOs were issued in global markets between 2004 and 2007, and about \$2 trillion of CDOs were outstanding in 2007.³⁴² While precise figures are not publicly available, it appears that half of more of those CDOs included exposures to nonprime mortgages.³⁴³ Between 2005 and 2007, ABS CDOs, hybrid CDOs and synthetic CDOs assembled portfolios that increasingly focused on actual or synthetic exposures to subprime RMBS, because investors' demand for exposures to subprime RMBS "exceeded supply by a wide margin" during those years.³⁴⁴ The growth of hybrid and synthetic CDOs meant that "the actual supply of real subprime mortgages . . . [was] no longer a limit to creating CDOs based on those instruments."³⁴⁵

In addition, insurers created additional financial bets related to nonprime mortgages by writing CDS to protect against defaults on ABS, RMBS and CDOs. Monoline bond insurers wrote more than \$1 trillion of CDS with respect to ABS, RMBS and CDOs from 2002 to 2007, including \$450 billion of CDS protecting holders of super-senior tranches of CDOs.³⁴⁶ AIG wrote \$80 billion of CDS to provide similar protection for super-senior tranches of CDOs with exposures to subprime mortgages.³⁴⁷

³⁴⁰ See Morris, *supra* note 172, at 75–76, 113–14; 2008 BASEL CRT REPORT, *supra* note 83, at 5, 36; Gorton, *supra* note 87, at 28–29.

³⁴¹ See MORRIS, *supra* note 172, at 75–76, 113–14; see also Lewis, *supra* note 338 (quoting Steve Eisman's explanation that synthetic CDOs allowed Wall Street firms to create out of "whole cloth" the equivalent of investments based on nonprime mortgages).

³⁴² See MORRIS, *supra* note 172, at 76; Gorton, *supra* note 87, at 26 tbl.5 ("Total issuance" column).

³⁴³ See MORRIS, *supra* note 172, at 78 (stating that "[i]n the boom years of 2005 and 2006, probably 80 percent of the securities in CDOs were mortgage-backed, possibly 70 percent of those were below top-grade, and at least half were subprime or second-lien home equity lines").

³⁴⁴ 2008 BASEL CRT REPORT, *supra* note 83, at 5; see also Gorton, *supra* note 87, at 27 (stating that "over the period 2005–07 . . . ABS CDO portfolios became increasingly concentrated in US subprime RMBS"); *id.* at 28 tbl.7 (showing that \$330 billion of subprime-related ABS CDOs were issued between 2005 and 2007); *id.* at 29 (stating that "mezzanine CDOs issued in 2005–07 used CDS to take on significantly greater exposure to the 2005 and 2006 vintages of subprime BBB-rated RMBS than were actually issued").

³⁴⁵ MORRIS, *supra* note 172, at 114.

³⁴⁶ 2008 BASEL CRT REPORT, *supra* note 83, at 15 (reporting that monoline insurers "have written roughly \$450 billion of super-senior protection on CDOs in the form of CDS contracts"); *Review and Outlook: The Other \$1 Trillion*, WALL ST. J., Feb. 13, 2008, at A26, available at LEXIS, News Library, WSJNL File (editorial) (explaining that the monoline bond insurance industry had traditionally "focused on bonds issued by state and local governments"; however, "[s]ince 2001, the industry has insured more than \$1 trillion in asset-backed securities, including mortgage-backed securities and collateralized debt obligations").

³⁴⁷ Robert O'Harrow Jr. & Brady Dennis, *Downgrades and Downfall*, WASH. POST, Dec. 31, 2008, at A01, available at LEXIS, News Library, WPOST File; see also *supra* note 130 and

Additional subprime-related CDS were written by other financial institutions. According to one estimate, CDS with gross notional values of \$45 trillion were outstanding in mid-2007, and about a third of those CDS protected holders of “structured finance instruments, like CDOs and CLOs.”³⁴⁸ In addition to the CDS provided by insurance companies, it appears that hedge funds and banks also wrote significant volumes of CDS to protect against defaults on nonprime-related debt instruments.³⁴⁹

Based on the foregoing analysis, a conservative estimate of the outstanding financial bets placed on nonprime mortgages as of 2007 would include (i) \$500 billion of nonprime mortgages that were not securitized and were instead held on lenders’ balance sheets, (ii) \$1.5 billion of nonprime RMBS, (iii) at least \$1 trillion of CDOs with nonprime exposures, and (iv) at least \$1 trillion (and probably much more) of CDS protecting against default of nonprime-related debt instruments.³⁵⁰ Thus, the total volume of financial instruments with exposures to nonprime mortgages was at least twice as large as the \$2 trillion of outstanding nonprime mortgages.

Citigroup and Merrill were the two largest managers of CDOs between 2004 and 2007.³⁵¹ Their leading positions in the CDO market reflected the decision of each company to create a “beginning-to-end subprime mortgage factory,” which included (i) originating and securitizing subprime mortgages and (ii) underwriting and distributing RMBS and CDOs, while collecting lucrative fees at each step of the process.³⁵² UBS also established a large presence in the subprime RMBS and CDO markets during the same period, because UBS decided to pursue a “growth at any cost” strategy in those markets in order to catch up to the leading U.S. investment banks.³⁵³

Citigroup, Merrill, UBS and other LCFIs faced multiple exposures to loss when the subprime crisis broke out in August 2007. LCFIs confronted “warehouse risk” because they held nonprime loans that they had not yet securitized as well as tranches of CDOs and RMBS that they had not yet

accompanying text (identifying AIG as the largest life insurer and second largest property and casualty insurer in the U.S.).

³⁴⁸ MORRIS, *supra* note 172, at 130–31 (citing estimate by Peter L. Bernstein).

³⁴⁹ *Id.* at 131, 113–18.

³⁵⁰ *See supra* notes 328–29, 345–49 and *infra* notes 50–52 and accompanying text.

³⁵¹ MUOLO & PADILLA, *supra* note 214, at 220; *see supra* note 109 and accompanying text.

³⁵² MUOLO & PADILLA, *supra* note 214, at 220, 222; *see also* Eric Dash & Julie Creswell, *Citigroup Pays for a Rush to Risk*, N.Y. TIMES, Nov. 23, 2008, at A1, *available at* LEXIS, News Library, NYT File; Gretchen Morgenson, *The Reckoning: How the Thundering Herd Faltered and Fell*, N.Y. TIMES, Nov. 9, 2008, § BU (Money & Bus.), at 1, *available at* LEXIS, News Library, NYT File.

³⁵³ MUOLO & PADILLA, *supra* note 214, at 260, 308; Blundell-Wignall & Atkinson, *supra* note 200, at 90–93; Allison Pyburn, *ML Leads Banner CDO Year*, ASSET SECURITIZATION REP., Jan. 8, 2007, *available at* LEXIS, News Library, ASTSRP File (reporting that “UBS made notable strides in 2006” in the U.S. CDO market).

distributed to investors.³⁵⁴ In addition, Citigroup, Merrill, UBS and other LCFIs deliberately retained super-senior tranches of CDOs in their investment portfolios and purchased CDS protection for those tranches from insurers in order to engage in “profitable negative basis trades.”³⁵⁵

In addition, Citigroup, HSBC, Societe Generale, and several other major banks set up structured investment vehicles (SIVs) and SIV-lites, which were off-balance-sheet (OBS) entities designed to purchase AAA-rated securities from their bank sponsors. SIVs and SIV-lites were exposed to severe liquidity risks because they relied, for a substantial portion of their funding, on short-term, asset-backed commercial paper (ABCP) that had to be renewed every few months. To offset those liquidity risks, the bank sponsors typically provided either partial or full credit lines to assure funding for the SIVs and SIV-lites if their ABCP could not be renewed.³⁵⁶ By 2007, SIVs and SIV-lites held \$400 billion of assets consisting of ABS, CMBS, RMBS, CLOs, CDOs, and debt issued by LCFIs.³⁵⁷ After the subprime crisis broke out, SIVs suffered significant losses and, in many cases, were unable to roll over their ABCP. Citigroup, HSBC and Societe Generale were forced to rescue their SIVs, thereby bringing \$130 billion of assets back onto their balance sheets.³⁵⁸

The SIV rescues showed that LCFIs felt obliged, for reasons of “reputation risk,” to support OBS entities that they had sponsored, even when they did not have explicit contractual commitments to do so.³⁵⁹ Thus, in the same way that LCFIs created major risks when they “warehoused” nonprime mortgage-related assets, LCFIs exposed themselves to significant losses when they transferred similar assets to sponsored OBS entities. In both cases, LCFIs did not follow a true OTD

³⁵⁴ 2008 BASEL CRT REPORT, *supra* note 83, at 2, 9, 14, 16; BRIAN GORDON & ADRIAN D’SILVA, HEDGES IN THE WAREHOUSE: THE BANKS GET TRIMMED, CHICAGO FED LETTER NO. 249 (2008), available at www.chicagofed.org/economic_research_and_data/chicago_fed_letter.cfm.

³⁵⁵ Gorton, *supra* note 87, at 25–26 & n.13. In a typical negative basis trade, the bank bought a super-senior CDO tranche and a CDS providing protection for the tranche. The bank treated the transaction as a simultaneous purchase and sale of the tranche and recognized income equal to the net present value of the difference between (i) the stream of payments expected from the tranche and (ii) the smaller stream of premium payments payable on the CDS. *Id.*; see also David Henry & Matthew Goldstein, *Death of a Bond Insurer*, BUS. WEEK, Apr. 14, 2008, available at LEXIS, News Library, BUSWK File.

³⁵⁶ April 2008 IMF GFS REPORT, *supra* note 86, at 69–72; 2008 BASEL CRT REP., *supra* note 83, at 45; Gorton, *supra* note 87, at 29–30.

³⁵⁷ April 2008 IMF GFS REPORT, *supra* note 86, at 70–71 (Box 2.5); Gorton, *supra* note 87, at 30 & n.18.

³⁵⁸ April 2008 IMF GFS REPORT, *supra* note 86, at 73–74 (Box 2.6) (stating that Citigroup absorbed \$84 billion onto its balance sheet from seven SIVs); Paul J. Davies, *SocGen joins SIV bail-out banks in grip of funds crisis*, Fin. Times (Asia ed.), Dec. 11, 2007, at 26 (reporting that HSBC and Societe Generale had absorbed \$50 billion of assets onto their balance sheets from SIVs).

³⁵⁹ 2008 BASEL CRT REPORT, *supra* note 83, at 16, 26. Citigroup rescued its SIVs despite having publicly declared that that “it had ‘no contractual obligation’ to provide full support to any of its SIVs.” Robin Sidel et al., *Citigroup Alters Course, Bails Out Affiliated Funds*, WALL ST. J., Dec. 14, 2007, at A1, available at LEXIS, News Library, WSJNL File (quoting SEC filing made by Citigroup).

strategy. Instead, LCFIs pursued an “originate to *not really* distribute” strategy, which prevented financial regulators and analysts from understanding the true risks created by the LCFIs’ involvement with nonprime mortgage-related assets.

By 2008, Citigroup, Merrill, UBS and several other major LCFIs were crippled by losses resulting from their exposure to nonprime mortgages and related instruments.³⁶⁰ Why did LCFIs and CRAs fail to appreciate the risks they were assuming by creating multiple layers of financial bets that depended on the performance of nonprime mortgages? At least five factors appear to explain the failure of risk analysis at LCFIs and CRAs. First, both LCFIs and CRAs assumed that U.S. housing prices would continue to rise indefinitely. The risk models used by financial conglomerates and CRAs failed to include any scenario that calculated potential losses resulting from a significant nationwide reduction in housing prices.³⁶¹ Second, CRAs assumed that senior tranches of RMBS and CDOs derived from large pools of nonprime mortgages would have very low default risks, due to the benefits of (1) risk diversification from pooling and (2) payment seniority from tranching. CRAs failed to recognize that senior tranches of nonprime RMBS and CDOs were exposed to significant systematic risks because (i) the intense demand for nonprime-related investments caused lenders to relax their standards for nonprime loans as the housing boom continued, and (ii) a serious and widespread recession in the U.S. economy would inflict large losses on holders of RMBS and CDOs, given the highly vulnerable financial condition of most nonprime borrowers.³⁶²

Third, the ability to earn lucrative fees from distributing and rating nonprime RMBS and CDOs evidently blinded both LCFIs and CRAs to the embedded risks in those instruments.³⁶³ Fourth, senior managers and

³⁶⁰ See *infra* notes 424-30 and accompanying text.

³⁶¹ See, e.g., SHILLER, *supra* note 195, at 54-55, 69 (stating that “banks . . . absolutely did not see the [subprime] crisis coming” because of the “speculative bubble” in housing, which “encouraged public belief in a long-standing myth . . . [that] the price of real estate must inevitably trend strongly upward through time”); *id.* at 65 (noting that U.S. housing prices declined in 1991 but “increased every year from 1997 to 2006”); Dash & Creswell, *supra* note 352 (reporting that “Citigroup’s risk models never accounted for the possibility of a national housing downturn”); Coval et al., *supra* note 82, at 20 (stating that Fitch, one of the leading CRAs, “used a model that assumed constantly appreciating home prices,” and Fitch representatives reportedly admitted, during an investor call on March 22, 2007, that their risk models would “break down completely” if national housing prices “decline[d] 1% to 2% for an extended period of time”); Lowenstein, *supra* note 322 (reporting that Moody’s, another leading CRA, “continued to envision rising home values” when it rated a subprime RMBS in June 2006); Lewis, *supra* note 336 (stating that in the fall of 2006 a Standard & Poor’s representative reportedly admitted to Steve Eisman that “its model for home prices had no ability to accept a negative number” because S&P assumed that “home prices would keep going up”).

³⁶² See, e.g., 2008 CGFS STRUCTURED FINANCE PAPER, *supra* note 337, at 4-10, 22-24; Coval et al., *supra* note 82, at 3-4, 15-23; Lowenstein, *supra* note 322.

³⁶³ See, e.g., Coval et al., *supra* note 82, at 4-5 (stating that “[b]y 2006, structured finance issuance led Wall Street to record revenue and compensation levels” while “Moody’s Corporation

investment bankers at LCFIs received incentive-based compensation that strongly encouraged them to incur excessive risks in order to produce short-term profits.³⁶⁴ Fifth, some of the institutions that suffered the greatest losses (for example, Citigroup, Merrill and UBS) were driven by management's willingness to take excessive risks to "catch up" with more profitable competitors like Goldman and Morgan Stanley.³⁶⁵

e. LCFIs Created Additional Dangers by Securitizing Subprime Credit Card Loans

As previously discussed, the three biggest U.S. banks—BofA, Chase and Citigroup—are the three largest credit card lenders, and they control more than half of the U.S. credit card market. The big three and the fourth- and fifth-ranked credit card lenders (Capital One and American Express) control two-thirds of the U.S. credit card market.³⁶⁶ Between 2001 and 2007, total outstanding credit card loans rose by more than forty percent, from \$675 billion to \$970 billion.³⁶⁷ By 2007, slightly less than half of the outstanding credit card loans had been securitized.³⁶⁸

Major banks gained dominant positions in the credit card market

reported that 44 percent of its revenues came from rating structured finance products, surpassing the 32 percent of revenues from their traditional business of rating corporate bonds"); Dash & Creswell, *supra* note 352 (reporting that Citigroup's senior managers embraced a strategy focused on CDOs and other nonprime mortgage-related securities because, according to one CDO staff member, "senior managers got addicted to the revenues"); Morgenson, *supra* note 352 (reporting that "Merrill seemed unafraid to stockpile C.D.O.'s to reap more fees" because the C.D.O. business "appeared to be a cash register"); Gretchen Morgenson, *House Panel Scrutinizes Rating Firms*, N.Y. TIMES, Oct. 23, 2008, at B1, available at LEXIS, News Library, NYT File (reporting that Frank L. Raiter, former head of mortgage ratings at Standard & Poor's for 10 years, testified during a congressional hearing that "[p]rofits were running the show"). For discussion of the conflicts of interest resulting from the fact that issuers of mortgage-related investments paid for the ratings issued by CRAs, see Malini Manickavasagam, *Credit Rating Agencies: Ratings Firms Testify on Revenue Sources as Lawmakers Note SEC's Oversight Failure*, 40 Sec. Reg. & L. Rep. (BNA) 1731 (Oct. 27, 2008) (summarizing congressional hearing dealing with alleged conflicts of interest at CRAs, and quoting opening statement by Rep. Henry Waxman, in which he noted that CRAs "doubl[ed] their collective revenues from \$3 billion in 2002 to more than \$6 billion in 2007" and Moody's "enjoyed the 'highest profit margin of any company in the S&P 500 for five years in a row'"), and other authorities cited *supra* in note 322.

³⁶⁴ See, e.g., Blundell-Wignall & Atkinson, *supra* note 200, at 88–91 (explaining the adverse impact of incentive-based compensation at UBS); John Cassidy, *Subprime Suspect: The Rise and Fall of Wall Street's First Black C.E.O.*, NEW YORKER, Mar. 31, 2008, at 78, 78 (discussing the perverse effects of bonus-based compensation at Merrill); Creswell & Dash, *supra* note 352 (providing similar analysis with respect to Citigroup).

³⁶⁵ See, e.g., Blundell-Wignall & Atkinson, *supra* note 200, at 88–91 (discussing UBS); Cassidy, *supra* note 368 (discussing Merrill); Dash & Creswell, *supra* note 352 (reporting on Citigroup).

³⁶⁶ See *supra* notes 236–37 and accompanying text; see also Daniel Wolfe, *Top Issuers, with Less Appetite for Risk, Slashing Credit Lines*, AM. BANKER, Dec. 2, 2008, at 7, available at LEXIS, News Library, AMBNKR File (reporting that BofA, Citigroup, Chase, Capital One and American Express were the five largest credit card lenders, with the top three "account[ing] for more than half of the U.S. credit card market" and the top five controlling "roughly 68% of the U.S. card market").

³⁶⁷ See Wilmarth, *supra* note 13, at 395 (providing 2001 figure); *supra* note 232 (providing 2007 figure).

³⁶⁸ See *supra* note 232 (stating that \$450 billion of credit card loans were held in securitized pools at the end of 2007).

through mass marketing campaigns, automated loan processing and securitization. In addition, federal preemption gave large federally-chartered banks a decisive advantage over smaller, state-chartered consumer lenders. Federal preemption of state usury laws and other state consumer protection laws enabled federally-chartered credit card lenders to charge unlimited interest rates, late fees, over-the-limit fees and other penalty fees on credit card loans.³⁶⁹ Between 2003 and 2007, the average late fee charged by large credit card lenders increased by seventeen percent to \$35.24, and the average over-the-limit fee increased by twenty-three percent to \$26.88. During the same period, total penalty fees charged by credit card lenders increased more than two-thirds and reached \$18.1 billion, an all-time record.³⁷⁰

As in the mortgage market, the increasing trend toward securitization encouraged credit card lenders to provide larger amounts of credit to subprime borrowers. Large credit card lenders raised their credit limits and expanded their lending to subprime customers because those customers typically paid higher interest rates and larger amounts of penalty fees. New credit cards issued to subprime borrowers rose by 137% between 2003 and 2006, and high-risk borrowers accounted for thirty percent of the outstanding credit card debt in 2008.³⁷¹

During the housing boom, big credit card lenders encouraged borrowers to use mortgage refinancings and home equity loans to pay off their credit card balances so that they could take on additional credit card debt. The banking “industry’s eagerness to issue mortgages—and to boost [credit] card limits simultaneously—created a ‘double financial

³⁶⁹ See *supra* Part III.B.2; Kathy Chu, *Some Say Credit Card Rule Isn't Enough*, USA TODAY, Dec. 18, 2008, at 9A, available at LEXIS, News Library, USATDY File; Kathy Chu & Byron Acohido, *Why Banks Are Squeezing Credit Card Holders*, USA TODAY, Nov. 10, 2008, at 1A, available at LEXIS, News Library, USATDY File; see also *supra* notes 238–55 and accompanying text (discussing the impact of federal preemption).

³⁷⁰ Chu & Acohido, *supra* note 369.

³⁷¹ Kathy Chu & Byron Acohido, *How Rising Home Values Placed Your Finances at Risk*, USA TODAY, June 18, 2008, at 1A, available at LEXIS, News File, USATDY File; Jessica Silver-Greenberg, *The Credit-Card Blowup Ahead*, BUS. WEEK, Oct. 20, 2008, at 24, available at LEXIS, News Library, BUSWK File; see also Robert Berner, *Cap One's Credit Trap*, BUS. WEEK, Nov. 6, 2006, at 34, 36, available at LEXIS, News Library, BUSWK File (reporting that (i) Capital One was “a major lender to the subprime market” and “30% of its credit card loans are subprime,” and (ii) Capital One was seeking to maximize its fee income by issuing multiple credit cards with low credit limits to subprime borrowers, thereby increasing the likelihood that such borrowers would (A) have trouble keeping current with payments on multiple cards and (B) pay a higher number of late fees and over-the-limit fees); Robin Sidel, *J.P. Morgan to Expand Reach of Card Business*, WALL ST. J., Dec. 20, 2005, at C1, available at LEXIS, News Library, WSJNL File (reporting that (i) Chase was expanding its credit card lending to reach “consumers who are considered less credit-worthy—and who pay bigger fees and higher interest rates—than its traditional cardholders,” and (ii) Citigroup, Capital One, HSBC and Barclays were already providing credit card loans to subprime borrowers).

bubble.”³⁷² Securitization also encouraged major banks to expand their lending to subprime borrowers, because “[w]hen banks package and sell card debt, they pass along to investors some of the risk the debt will go bad. Yet banks often get to pocket much of the profit from rate and fee increases on [credit card] accounts.”³⁷³

The market for ABS backed by pools of credit card receivables “froze” in late 2008, cutting off the ability of major lenders to securitize their credit card loans.³⁷⁴ At the same time, delinquencies and defaults increased sharply on credit card loans, due to rising unemployment and falling home prices (which cut off the ability of many borrowers to use home equity as a source for paying their credit card bills).³⁷⁵ In late 2008, one analyst predicted that banks would incur \$140 billion of losses from defaulted credit card loans in 2008 and 2009.³⁷⁶ As in the case of residential mortgages, it appears that securitization encouraged reckless lending by LCFIs in the credit card market.³⁷⁷

4. *Financial Conglomerates Promoted a Reckless Expansion of High-Risk Commercial Real Estate Debt and Corporate Debt*

As previously discussed, LCFIs used securitization techniques to promote a dramatic increase in commercial mortgage lending and leveraged corporate lending between 2003 and 2007.³⁷⁸ In both markets, as with nonprime home mortgages and credit cards, LCFIs applied increasingly lax lending standards and created an unsustainable credit boom, followed by a sharp rise in loan delinquencies and defaults.

a. Commercial Mortgages and CMBS

The aggressive underwriting of CMBS by financial conglomerates produced rapid growth in the U.S. CMBS market and spurred a boom in commercial real estate prices. Outstanding CMBS increased from \$360 billion in 2003 to \$780 billion in 2007,³⁷⁹ accounting for more than a third of the rise in outstanding commercial mortgages from \$2.1 trillion to \$3.3

³⁷² Chu & Acohido, *supra* note 371 (quoting Robert Manning); *see also supra* notes 214–15 and accompanying text (discussing homeowners’ withdrawal of home equity during the housing boom in order to pay off credit card debts).

³⁷³ Chu & Acohido, *supra* note 369; *see also* Silver-Greenberg, *supra* note 371 (stating that the largest credit card issuers “offload[ed] roughly 70% of their credit-card debt” until late 2008).

³⁷⁴ Hugh Son, *Bank of America, AmEx May Suffer on Card Defaults*, BLOOMBERG.COM, Feb. 19, 2009.

³⁷⁵ *Id.*; Eric Ruth, *Next Big Worry: Credit Cards*, NEWS J. (Wilmington, DE), Nov. 3, 2008, at 7B, available at LEXIS, News Library, NEWJNL File.

³⁷⁶ *See* Silver-Greenberg, *supra* note 371, at 24 (citing estimate by Innovest); *see also* Son, *supra* note 374 (reporting that Citigroup and BofA recorded more than \$17 billion of charge-offs on credit card loans during 2008).

³⁷⁷ *See* Chu & Acohido, *supra* note 369; Silver-Greenberg, *supra* note 371.

³⁷⁸ *See supra* notes 70–76, 101–04 and accompanying text.

³⁷⁹ *See supra* notes 101, 104 and accompanying text.

trillion.³⁸⁰ Prices for office buildings rose sharply in relation to production costs in several major cities—including Las Vegas, Miami, Phoenix and Tampa—that experienced simultaneous housing booms.³⁸¹ More generally, price increases for office buildings were closely connected to housing price increases in thirty-two U.S. metropolitan markets between 2003 and 2008.³⁸² During that period, average office prices rose by nearly sixty percent in the central business districts of those markets.³⁸³

A recent study concluded that “lenders . . . became more optimistic during the boom” and loan underwriting standards declined as the boom reached its peak.³⁸⁴ “[B]etween 2003 and 2007, the fraction of [commercial real estate] loans with either partial or full interest-only periods skyrocketed from less than 10% to nearly 90%.”³⁸⁵ Similarly, “pro forma” loans—i.e., loans in which “the loan amount and terms were based on prospective rents, not actual in-place rents”—represented “at least 10% of all commercial mortgages securitized in 2007.”³⁸⁶ During the height of the real estate boom, many commercial mortgage loans were made with loan-to-value ratios of ninety-five percent.³⁸⁷

Like other securitization markets, the market for CMBS shut down in 2008 following the outbreak of the subprime financial crisis. Issuances of CMBS in the U.S. fell from \$237 billion in 2007 to \$12 billion in 2008, and no CMBS were issued after June 2008.³⁸⁸ Delinquencies and defaults on commercial mortgages increased in late 2008 and early 2009, amid signs that many owners of office buildings and retail properties were experiencing serious financial distress because of the deepening recession.³⁸⁹ A particularly ominous development occurred in April 2009,

³⁸⁰ See 2007 FLOW OF FUNDS REPORT, *supra* note 92, at 93 tbl.L217 (showing outstanding multifamily residential mortgages and other commercial mortgages at the end of 2003 and 2007).

³⁸¹ Joseph Gyourko, *Understanding Commercial Real Estate: Just How Different From Housing Is It?* 4 (Nat'l Bureau of Econ. Research Working Paper No. 14708, Feb. 2009), available at www.nber.org.

³⁸² *Id.* at 13–14.

³⁸³ *Id.* at 23.

³⁸⁴ *Id.* at 28.

³⁸⁵ *Id.*; see also Parke M. Chapman, *Weathering the Storm*, NAT'L REAL ESTATE INVESTOR, Sept. 2007, at 22, 26 (reporting an increase in interest-only commercial real estate loans in 2006 and 2007).

³⁸⁶ Gyourko, *supra* note 381, at 29; see also Kris Hudson & Lingling Wei, *Small Creditors Hurt Mall Owner—General Growth's Bankruptcy Case Signals Pain for Others; Defaults Rise*, WALL ST. J., Apr. 17, 2009, at C1, available at LEXIS, News Library, WSJNL File (reporting that “[b]y 2007, . . . many [CMBS] offerings were underwritten on the assumption that property cash flows and values would rise”).

³⁸⁷ See Chapman, *supra* note 385, at 24.

³⁸⁸ See Scott Lanman, *Fed Said to Weigh Changing Higher Rates for Longer TALF Loans*, BLOOMBERG.COM, Apr. 8, 2009; Hui-yong Yu, *CMBS Loans at Risk as U.S. Rents Decline*, *Reis Says*, BLOOMBERG.COM, Feb. 3, 2009.

³⁸⁹ See, e.g., Hudson & Wei, *supra* note 386; David M. Levitt, *Defaults Rise as Worst Is Yet to Come for Commercial Property*, BLOOMBERG.COM, Apr. 2, 2009; Ari Levy & Daniel Taub, *Defaulting Commercial Properties Hit Banks on Vacancy-Rate Rise*, BLOOMBERG.COM, Mar. 23, 2009; Lingling Wei & Jon Hilsenrath, *Developers Ask U.S. For Bailout As Massive Debt Looms*, WALL ST. J., Dec. 22, 2008, at A1, available at LEXIS, News Library, WSJNL File.

when General Growth, the second-largest owner of U.S. shopping malls, filed “the biggest real estate bankruptcy in U.S. history after amassing \$27 billion in debt,” including \$5 billion of bank debt and \$14 billion of CMBS.³⁹⁰

Analysts warned in early 2009 that “[a]n unusually high number of [commercial] mortgages that are going bad were written and securitized [during 2006 to 2008], a sign that investors overpaid and that underwriting standards were too loose.”³⁹¹ A major bank predicted that default rates on outstanding CMBS could reach thirty percent.³⁹² Commercial real estate lenders and investors in CMBS faced the prospect of large losses because \$530 billion of commercial mortgages were scheduled to become due for payment between 2009 and 2011, and the availability of credit for refinancing was “practically nonexistent.”³⁹³ The ten largest U.S. banks held \$330 billion of commercial mortgages in early 2009, with Wells Fargo and BofA holding about half of those loans.³⁹⁴ Both LCFIs and smaller regional banks were exposed to significant losses as a result of their exposures to commercial real estate loans and CMBS.³⁹⁵

b. Leveraged Corporate Loans and Junk Bonds

Loose underwriting by universal banks produced a boom-and-bust cycle for leveraged corporate loans and high-yield (junk) bonds that was similar to the reckless lending patterns for nonprime residential mortgages, credit cards and commercial mortgages. Leveraged loans and junk bonds represent subprime corporate debt, because those instruments are debt obligations issued by below-investment-grade firms. LCFIs underwrote approximately \$5 trillion of leveraged loans and \$800 billion of high-yield bonds in global markets between 2003 and 2007.³⁹⁶ During the same period, \$500 billion to \$700 billion of leveraged loans were pooled and tranced to create CLOs.³⁹⁷ Higher-rated tranches in CLOs were sold to

³⁹⁰ Daniel Taub & Brian Louis, *General Growth Files Biggest U.S. Property Bankruptcy (Update 1)*, BLOOMBERG.COM, Apr. 16, 2009; *see also* Hudson & Wei, *supra* note 386.

³⁹¹ Hudson & Wei, *supra* note 386.

³⁹² *Id.* (citing prediction by Deutsche Bank).

³⁹³ Wei & Hilsenrath, *supra* note 389; *see also* Yu, *supra* note 388.

³⁹⁴ *See* Levy & Taub, *supra* note 389.

³⁹⁵ *See id.*; Linda Shen, *Synovus, Comerica May See Commercial Real Estate Bust (Update 1)*, BLOOMBERG.COM, Jan. 13, 2009 (reporting that (i) “regional banks . . . face a second wave of real-estate loan losses, this time for shopping centers and residential construction projects” and (ii) the fraction of overdue commercial real-estate loans had risen to 4.73%, “the highest level since 1994”); *see also* Stein, *supra* note 102 (reporting that Lehman, Morgan Stanley and Citigroup had significant loss exposures due to their large holdings of commercial real estate loans and CMBS in early 2008).

³⁹⁶ *2008 CGFS Private Equity Paper*, *supra* note 71, at 11 graph 2.2; *see also* MORRIS, *supra* note 172, at 123–27 (describing the subprime and highly risky characteristics of junk bonds and leveraged loans); Wilmarth, *supra* note 13, at 326–30, 381–84 (same); *supra* note 70 (describing “higher-yielding, higher-risk” nature of leveraged loans).

³⁹⁷ *See supra* notes 106–08 and accompanying text (describing CLOs); *supra* note 128 (citing source stating that \$543 billion of CLOs were issued from 2002 to 2007). *Compare 2008 CGFS*

insurance companies, pension funds and other investors who desired high-yielding, investment-grade debt.³⁹⁸ At the same time, junk bonds, participations in leveraged loans and lower-rated tranches of CLOs were sold to hedge funds and other institutional investors with a higher tolerance for risk.³⁹⁹

Leveraged loans and junk bonds provided financing for a wide variety of merger and acquisition (M&A) transactions, including LBOs. Between 2002 and 2007, \$15.5 trillion in M&A transactions occurred in global markets, representing “the biggest stretch of deal making in history.”⁴⁰⁰ Due to the rapid expansion of LBO financing, private equity firms completed more than \$1.8 trillion of global LBOs between 2004 and 2007.⁴⁰¹

As the LBO boom reached its peak between 2004 and the first half of 2007, LBO deals became increasingly risky for investors. The proportion of junk bonds rated “B-” or below rose above forty percent after 2004 and reached an all-time high of forty-seven percent during the first half of 2007.⁴⁰² Between 2000 and 2003, only ten percent of leveraged loans were issued with the most risky credit rating (CCC). However, the share of leveraged loans with CCC ratings rose above forty percent beginning in 2004 and reached “a truly remarkable 50% in 2006.”⁴⁰³ Average prices paid for LBO targets increased from 7.7 times cash flow in 1999 to 8.6 times cash flow in 2006 and 9.8 times cash flow during the first half of 2007.⁴⁰⁴

During the peak of the LBO boom, leveraged loans—especially those securitized in CLOs—were frequently issued with interest-only, “PIK” and “covenant lite” terms. Interest-only loans allowed borrowers to defer paying any principal until maturity. “PIK” loans also allowed borrowers to defer paying interest by issuing new debt to cover accrued interest. “Covenant lite” loans exempted borrowers from standard loan covenants that typically require firms to limit their debt and to maintain minimum

Private Equity Paper, *supra* note 71, at 28 graph 4.1 (indicating that nearly \$700 billion of CLOs were issued during the same period), with Pierre Paulden & Neil Unmack, *JP Morgan Adds to \$14 Billion CLO Bet Amid Downgrades*, BLOOMBERG.COM, Dec. 19, 2008 (citing a Chase estimate that \$606 billion of CLOs backed by leveraged loans were issued between 2002 and 2008).

³⁹⁸ 2008 CGFS *Private Equity Paper*, *supra* note 71, at 26–27.

³⁹⁹ See 2008 CGFS *Private Equity Paper*, *supra* note 71, at 7–10, 14–15, 26–28; Altman, *supra* note 70, at 24.

⁴⁰⁰ Dennis K. Berman, *Quarterly Markets Review: Merger Frenzy Winds Down After 6 Years*, WALL ST. J., Oct. 1, 2007, at C5, available at LEXIS, News Library, WSJNL File.

⁴⁰¹ See *supra* notes 72–73 and accompanying text; see also Kaplan & Stromberg, *supra* note 73, at 121–27 (describing private equity firms and LBO transactions).

⁴⁰² See Altman, *supra* note 70, at 27.

⁴⁰³ *Id.*

⁴⁰⁴ Dennis K. Berman, *The Game: Debt Reckoning Is Also Looming for LBO Shops—Overpaying for Deals Aided by Loose Credit Puts Borrowers at Risk*, WALL ST. J., Dec. 4, 2007, at C1, available at LEXIS, News Library, WSJNL File.

levels of cash flow coverage and interest payment coverage.⁴⁰⁵ The risky features of leveraged loans during the LBO boom resembled the interest-only, negative amortization and low- or no-documentation provisions of nonprime residential mortgages that LCFIs issued during the simultaneous housing boom.⁴⁰⁶ As a practical matter, the LBO financing packages underwritten by LCFIs represented the same kind of “Ponzi finance” as nonprime residential mortgages, because many LBO firms and homeowners with nonprime mortgages could not satisfy their debts unless they were able to refinance those debts on more favorable terms.⁴⁰⁷

The ability to transfer corporate loans to investors (through CLOs and secondary trading of syndicated loans) apparently created the same types of perverse incentives for LCFIs as occurred with respect to their securitization of nonprime residential mortgages, credit cards and commercial mortgages. A recent study found that corporate borrowers whose syndicated loans were sold and actively traded in the secondary market performed significantly worse, over a three-year period, compared to corporate borrowers whose loans were retained by the lending banks. The authors concluded that the poor performance of the loans that were sold probably resulted from a combination of the following two factors: (i) the lending banks deliberately sold “lemon” loans to investors, and (ii) the lending banks failed to monitor the borrowers whose loans were sold and thereby allowed those borrowers to exploit investors who purchased the loans.⁴⁰⁸ In explaining the “progressive deterioration in underwriting standards” for leveraged loans that were packaged into CLOs, a prominent asset manager noted that “[t]he banks making the [leveraged] loans don’t have a continuing interest in how the loans play out because they don’t have much money at risk.”⁴⁰⁹

⁴⁰⁵ Acharya et al., *supra* note 72, at 49; 2008 *CGFS Private Equity Paper*, *supra* note 71, at 30; *Credit Markets: You Only Give Me Your Funny Paper*, *ECONOMIST*, June 30, 2007, at 83, available at LEXIS, News Library, ECON File; Shawn Tully, *Why the Private Equity Bubble Is Bursting*, *FORTUNE*, Aug. 20, 2007, at 30, available at LEXIS, News Library, FORTUN File (describing the risks posed by “covenant lite” loans for LBOs and other private equity deals).

⁴⁰⁶ See Morris, *supra* note 172, at 124–25; Tully, *supra* note 405; *supra* notes 289–301 and accompanying text (describing high-risk features of nonprime mortgages).

⁴⁰⁷ See Emily Thornton, *What Have You Done to My Company?*, *BUS. WEEK*, Dec. 8, 2008, at 40, 42, available at LEXIS, News Library, BUSWK File; *supra* notes 302–04 and accompanying text (describing the “Ponzi finance” inherent in nonprime residential mortgages).

⁴⁰⁸ See Berndt & Gupta, *supra* note 131, at 4–6, 16–24; see also Blundell-Wignall & Atkinson, *supra* note 200, at 63 (concluding that “it was quite easy for [banks] to sell ‘lemons’ [i.e., bad loans] into the capital markets” because the investment-grade ratings assigned to such loans by CRAs “g[a]ve comfort to investors,” notwithstanding the CRAs’ “natural moral hazard” resulting from the payment of their fees by issuers of ABS).

⁴⁰⁹ Serena Ng & Henny Sender, *Easy Money: Behind Buyout Surge, a Debt Market Booms—CLOs Spark Worries of Volatility and Risk; Loan Standards Loosen*, *WALL ST. J.*, June 26, 2007, at A1, available at LEXIS, News Library, WSJNL File (quoting Dan Fuss, vice chairman of Loomis Sayles); see also Acharya et al., *supra* note 72, at 46 (stating that “if loans do not remain the economic risks of the banks that originate them, the originating bankers’ incentives to engage in effective screening and monitoring of deals are naturally weakened”).

LCFIs (as well as their regulators) apparently believed that they were transferring to investors most of the risks of LBO financing.⁴¹⁰ In fact, however, that was not altogether true—just as it was not entirely the case with respect to nonprime RMBS and CDOs.⁴¹¹ Because LCFIs were so eager to earn investment banking fees from LBOs, LCFIs agreed to make bridge loans to provide temporary financing for LBOs until investors could be found to purchase the requisite amounts of leveraged loans and junk bonds.⁴¹² In the late summer and early fall of 2007, investor demand for LBO securities suddenly collapsed, due to the outbreak of the subprime mortgage crisis.⁴¹³ LCFIs were left holding nearly \$400 billion of commitments to provide bridge financing for pending LBOs.⁴¹⁴

Universal banks made strenuous efforts to reduce their LBO commitments by finding investors to buy leveraged loan participations and junk bonds. Universal banks frequently provided price guarantees and below-market-rate loans to induce hedge funds and private equity firms to purchase LBO securities. By early 2008, LCFIs had reduced their LBO commitments to about \$200 billion.⁴¹⁵ Even so, banks recorded more than \$110 billion of losses on leveraged loans by the fall of 2008 (a figure representing more than a tenth of their losses from subprime-related problems).⁴¹⁶

By early 2009, as the recession deepened, U.S. corporations faced debt problems that were comparable to the plight of homeowners with nonprime

⁴¹⁰ See Ng & Sender, *supra* note 409 (reporting that (i) “[t]hese days, banks that arrange large buyout financings hold on to very little of the loans themselves,” and (ii) “CLOs have been lauded by former [FRB] Chairman Alan Greenspan and others for dispersing risk”).

⁴¹¹ See *supra* notes 339, 354–60 and accompanying text (discussing LCFIs’ retention of significant exposures to losses from RMBS and CDOs despite their ostensible OTD strategy).

⁴¹² See Dana Cimilluca & David Enrich, *Deal-Making Ties Unravel: Underwriters Retreating from Backing Buyouts*, WALL ST. J., Sept. 18, 2007, at C1, available at LEXIS, News Library, WSJNL File; Steven Rattner, *The Credit Crunch Continues*, WALL ST. J., Sept. 20, 2007, at A13, available at LEXIS, News Library, WSJNL File; *supra* notes 74–76 and accompanying text. Federal regulators did not publicly express any misgivings about LCFIs’ bridge financing commitments until May 2007. See Greg Ip, *Fed, Other Regulators Turn Attention to Risk in Banks’ LBO Lending*, WALL ST. J., May 18, 2007, at C1, available at LEXIS, News Library, WSJNL File.

⁴¹³ See Tully, *supra* note 405 (describing the “bursting” of the LBO financing “bubble” after “rising defaults in the subprime mortgage market . . . served as a wake-up call”); Rattner, *supra* note 412 (providing similar analysis).

⁴¹⁴ See 2008 CGFS *Private Equity Paper*, *supra* note 71, at 16; Henny Sender, *Debt on Sale: Banks Grease the Leveraged-Loan Machine*, WALL ST. J., Oct. 10, 2007, at C1, available at LEXIS, News Library, WSJNL File.

⁴¹⁵ See 2008 CGFS *Private Equity Paper*, *supra* note 71, at 16, 30; Pierre Paulden & Cecile Gutscher, *Pandit’s ‘Closer to End’ Means No Escaping LBO Loans (Update 3)*, BLOOMBERG.COM, Apr. 29, 2008; David Reilly, *Banks Use Quirk as Leverage Over Brokers in Loan Fallout*, WALL ST. J., Feb. 27, 2008, at C1 & “On the Hook” tbl., available at LEXIS, News Library, WSJNL File (reporting that Citigroup, Chase, Goldman, Lehman, Morgan Stanley, Merrill and BofA had more than \$170 billion of combined leveraged-lending exposures); Sender, *supra* note 414.

⁴¹⁶ See Pierre Paulden, *Lenders Squeeze Companies Amid \$112 Billion of Losses (Update 1)*, BLOOMBERG.COM, Oct. 7, 2008; see also *infra* notes 422–23 and accompanying text (reporting that banks in global markets lost \$910 billion from subprime-related problems, including leveraged loans, between mid-2007 and March 2009).

mortgages. Nearly two-thirds of domestic nonfinancial firms carried below-investment-grade credit ratings—a situation described by an S&P executive as “the most toxic mix of U.S. corporate ratings we’ve seen.”⁴¹⁷ The three leading CRAs predicted that default rates on junk bonds would rise in 2009 to the highest levels since 1933.⁴¹⁸ Analysts estimated that U.S. companies were struggling with \$2.5 trillion of high-risk corporate debt and were likely to default on as much as \$500 billion of that debt during 2009 and 2010.⁴¹⁹ Observers also warned that European firms would default on significant amounts of their own debt.⁴²⁰ Thus, the OTD strategy pursued by LCFIs in the subprime corporate debt market produced the same kind of painful legacy that has tarnished the markets for residential and commercial mortgages and credit card debt.

C. *Financial Conglomerates Became the Epicenter of the Subprime Financial Crisis*

The huge losses reported by LCFIs since the outbreak of the subprime financial crisis have confirmed that (i) LCFIs were the primary private-sector catalysts for the credit boom that led to the crisis, and (ii) LCFIs have become the epicenter of the world’s financial turmoil. In April 2009 it was reported that “[f]inancial institutions worldwide ha[d] amassed

⁴¹⁷ Jeffrey McCracken & Vishesh Kumar, *Wave of Bad Debt Swamps Companies*, WALL ST. J., Feb. 13, 2009, at A1, available at LEXIS, News Library, WSJNL File (quoting Diana Vazza, head of S&P’s fixed-income research); see also MORRIS, *supra* note 172, at 123 (stating that “[o]nly 39 percent of nonfinancial issuers now have investment-grade ratings”); *Finance and Economics: Buttonwood: Debtors’ Prison*, ECONOMIST, Feb. 21, 2009, at 74, available at LEXIS, News Library, ECON File (reporting that “[i]n 2007, junk-bond issuers made up most of the [American bond] market for the first time”).

⁴¹⁸ McCracken & Kumar, *supra* note 417 (reporting that the three leading CRAs predicted junk-bond default rates of fourteen percent or higher in 2009, the highest level since 1933); see also Altman, *supra* note 70, at 20 fig.4 (showing that the highest annual default rate on junk bonds between 1971 and 2007 occurred in 2002, when 12.8% of junk bonds defaulted).

⁴¹⁹ See MORRIS, *supra* note 172, at xix–xx, 136–37 (estimating, as of Oct. 2008, that (i) U.S. corporations had outstanding debt obligations that included \$1 trillion of junk bonds and \$1.5 trillion of leveraged loans, (ii) \$400 billion of that high-risk debt would default, and (iii) total losses from corporate debt defaults and writedowns would be \$515 billion); see also INT’L MONETARY FUND, GLOBAL FINANCIAL STABILITY REPORT: RESPONDING TO THE FINANCIAL CRISIS AND MEASURING SYSTEMIC RISK 28 tbl.1.3 (2009), available at <http://www.imf.org/External/Pubs/FT/GFSR/2009/01/pdf/text.pdf> [hereinafter APRIL 2009 IMF GFS REPORT] (estimating that \$430 billion of writedowns would be recorded between 2007 and 2010 with regard to U.S. corporate loans and securities, with banks incurring \$265 billion of those writedowns); McCracken & Kumar, *supra* note 417 (citing estimates in early 2009 that \$450 to \$500 billion of U.S. corporate loans and junk bonds would default during the next two years); see also *Private Equity: Return to Earth*, ECONOMIST, Feb. 14, 2009, at 1, available at LEXIS, News Library, ECON File (citing estimate by Hieno Meerkatt that half of the companies acquired in LBOs might default, resulting in \$300 billion of losses).

⁴²⁰ See Ewing et al., *supra* note 184, at 38 (reporting that “European corporations are deeply in hock, with \$801 billion of corporate debt maturing this year—nearly one-third more than in the U.S.”); Carol Matlack, *Debt Is Hobbiling Europe Inc.*, BUS. WEEK, Feb. 23, 2009, at 28, available at LEXIS, News Library, BUSWK File (discussing problems with European corporate debt, and citing an S&P estimate that European companies could default on \$65 billion of loans during 2009 and 2010).

\$1.32 trillion of losses . . . since the U.S. subprime mortgage market collapsed.⁴²¹ Commercial and investment banks incurred \$910 billion of the reported losses, and insurance companies accounted for an additional \$220 billion.⁴²² More than half of the losses reported by banks and insurers were incurred by the sixteen LCFIs identified above as the world's leading financial conglomerates and by AIG.⁴²³

A detailed analysis of the performance of those seventeen institutions is beyond the scope of this Article. However, the following summary shows that twelve of the seventeen institutions suffered severe damage, and, of those twelve, (i) six institutions (Wachovia, Lehman, Bear Stearns, Merrill, AIG and RBS) essentially failed or were nationalized, and (ii) three other institutions (Citigroup, BofA and UBS) are continuing to operate on government-funded life support:

- Two of the three largest U.S. banks—Citigroup and BofA—suffered massive losses and received huge bailout packages from the U.S. government that included \$90 billion of capital infusions and more than \$400 billion of asset price guarantees.⁴²⁴
- The fourth largest U.S. bank—Wachovia, a top nonprime lender—essentially failed and was acquired in an emergency takeover by Wells Fargo. Similar outcomes occurred with respect to three other large U.S. depository institutions that were also leading nonprime lenders—(i) Washington Mutual, which failed and was acquired by Chase; (ii) National City,

⁴²¹ Elena Logutenkova, *Credit Suisse Seen Returning to Profit After Overtaking UBS*, BLOOMBERG.COM, Apr. 22, 2009.

⁴²² See Dave Pierson, *Subprime Mortgage-Related Losses Top \$1.259.9 Billion (Corrected)*, *Bloomberg.com*, Mar. 25, 2009 (tbl. listing losses for “Banks & brokers” and “Insurers”); see also APRIL 2009 IMF GFS REPORT, *supra* note 419, at 34 tbl.14 (showing that U.S., U.K. and European banks recorded \$850 billion of writedowns by the end of 2008, and estimating that those banks would incur an additional \$1.6 trillion of writedowns during 2009 and 2010).

⁴²³ See Pierson, *supra* note 422, tbl. & n. (showing that the 17 institutions incurred \$631.3 billion of “credit losses or writedowns of mortgage assets . . . as well as charges taken on leveraged-loan commitments since the beginning of 2007”); *supra* notes 129–30 and accompanying text (identifying the 16 leading financial conglomerates and AIG); AIG recorded \$87.3 of those losses and writedowns, compared to \$544 billion for the remaining 16 universal banks. Pierson, *supra* note 421, tbl. & n.

Like the four largest U.S. securities firms, AIG was a de facto universal bank because it owned an FDIC-insured thrift and was regulated by the OTS. See Patricia A. McCoy et al., *Systemic Risk Through Securitization: The Result of Deregulation and Regulatory Failure*, 41 CONN. L. REV. (forthcoming 2009) (manuscript at 37, on file with *Connecticut Law Review*) (discussing AIG); *supra* notes 45–49 and accompanying text (describing the four largest U.S. securities firms as “de facto universal banks” due to their ownership of FDIC-insured thrifts and LLCs).

⁴²⁴ See Pierson, *supra* note 422, tbl. (showing that Citigroup reported \$88.3 billion of subprime-related losses and BofA reported \$42.7 billion of such losses); CONG. OVERSIGHT PANEL, 111TH CONG., APRIL OVERSIGHT REPORT: ASSESSING TREASURY’S STRATEGY: SIX MONTHS OF TARP 20 fig.1 & nn.39–46, available at <http://cop.senate.gov/documents/cop-040709-report.pdf> [hereinafter APRIL 2009 COP TARP REPORT] (summarizing the federal government’s bailout packages for BofA and Citigroup).

which was threatened with failure and forced into a federally-assisted “shotgun marriage” with PNC; and (iii) Countrywide, which was forced into a similar emergency takeover by BofA.⁴²⁵

- All five of the largest U.S. securities firms encountered major problems. Lehman filed for bankruptcy. Bear Stearns and Merrill faced imminent failure and agreed to emergency takeovers by Chase and BofA, respectively. Goldman and Morgan Stanley hastily converted to financial (bank) holding companies in order to “assure permanent access to the [FRB’s] discount window.”⁴²⁶
- AIG reported nearly \$90 billion of subprime-related losses and was effectively nationalized by the U.S. government.⁴²⁷
- RBS reported large losses and was nationalized by the U.K. government, while Barclays narrowly avoided a similar fate.⁴²⁸
- UBS incurred more than \$50 billion of subprime-related losses and received a \$60 billion bailout package from the Swiss government.⁴²⁹
- HSBC suffered more than \$40 billion of subprime-related losses and announced a shutdown of its subprime mortgage lending operations in the U.S.⁴³⁰

⁴²⁵ See McCoy et al., *supra* note 423 (manuscript at 19, 25–30); see also MUOLO & PADILLA, *supra* note 214, at 14–21, 269–70, 301 (describing BofA’s rescue of Countrywide); Eric Dash, *PNC Gets National City in Latest Bank Acquisition*, N.Y. TIMES, Oct. 25, 2008, at 4A, available at LEXIS, News Library, NYT File (reporting on PNC’s federally-assisted acquisition of National City); Theresa D. Murray, *National City Sale Staved Off Fed Shutdown*, PLAIN DEALER (Cleve. OH), Nov. 11, 2008, at A1 (same).

⁴²⁶ McCoy et al., *supra* note 423 (manuscript at 31); see also Susanne Craig et al., *The Weekend That Wall Street Died: Ties That Long United Strongest Firms Unraveled as Lehman Sank Toward Failure*, WALL ST. J., Dec. 29, 2008, at A1, available at LEXIS, News Library, WSJNL File.

⁴²⁷ See APRIL 2009 COP TARP REPORT, *supra* note 424, at 19 fig.1 & 19–20 nn.37–38 (summarizing the federal government’s bailout package for AIG); McCoy et al., *supra* note 423 (manuscript at 37); Testimony of FRB Vice-Chairman Donald L. Kohn, *supra* note 130; Pierson, *supra* note 422, tbl. (showing that AIG reported \$87.3 billion in subprime-related losses).

⁴²⁸ See Pierson, *supra* note 422, tbl. (showing that RBS reported \$21.1 billion of subprime-related losses, while Barclays reported \$14.5 billion of such losses); Anthony Faiola & Mary Jordan, *British Bank to the World Takes Its Cash Back Home*, WASH. POST, Mar. 28, 2009, at A01, available at LEXIS, News Library, WPOST File (reporting on RBS’ problems and its nationalization by the U.K. government); Bonnie Sinnock, *Aid May Quell RBS’s Continuing Asset Woes, and Boost Lending Authority*, NAT’L MORTGAGE NEWS, Mar. 9, 2009, at 17, available at LEXIS, News Library, NMN File (same); *Britain: High-street High-Roller: Barclays in the Money*, ECONOMIST, May 2, 2009, available at LEXIS, News Library, ECON File (discussing Barclays’ avoidance of nationalization and its continued financial vulnerability).

⁴²⁹ See Blundell-Wignall & Atkinson, *supra* note 200, at 88–93; Pierson, *supra* note 422 tbl. (showing that UBS reported \$50.6 billion in subprime-related losses); Daniel Pruzin, *International Banking: Switzerland Aims Plan to Bail Out UBS, Shore Up Financial System*, 91 BNA’S BANKING REP. (BNA) 686 (Oct. 20, 2008) (reporting on Swiss government’s bailout of UBS).

⁴³⁰ Pierson, *supra* note 422 tbl. (showing that HSBC incurred \$42.2 billion of subprime-related losses); Jon Menon, *HSBC to Raise \$17.7 Billion as Subprime Cuts Profit*, BLOOMBERG.COM, Mar. 2,

Governments and financial regulators have taken extraordinary measures to rescue their leading banks and prop up their financial systems. The IMF reported in April 2009 that U.S., U.K. and European central banks and governments had committed nearly \$9 trillion to support their financial institutions and markets, including \$2 trillion of emergency central bank liquidity assistance, \$2.5 trillion of government asset purchase commitments, and almost \$4.5 trillion of financial guarantees.⁴³¹ U.S. authorities have extended about half of that support.⁴³²

The IMF also warned that the current financial crisis is far from over. While banks and insurers have already reported \$1.13 trillion of losses, the IMF estimated that the total writedowns for banks and insurers from 2007 through the end of 2010 would be \$3.1 trillion.⁴³³ The IMF therefore concluded that banks and insurers are only a third of the way through the painful process of recognizing and coping with losses from the subprime meltdown.⁴³⁴

IV. CONCLUSION AND POLICY IMPLICATIONS

LCFIs were the primary private-sector catalysts for the destructive credit boom that led to the subprime financial crisis, and they have become the epicenter of the current global financial mess. The enormous losses suffered by LCFIs and the extraordinary governmental assistance they have received reveal a stunning failure of financial regulation and an unprecedented expansion of government support for financial markets. A detailed discussion of both topics is beyond the scope of this Article but will be the subject of future work. For present purposes, I wish to make two basic points concerning financial regulatory policy and government bailouts.

First, during the past two decades financial regulators in developed nations (particularly the U.S. and U.K.) implemented policies based on the following five regulatory choices:

2009 (reporting on UBS' decision to shut down U.S. subprime mortgage unit); Bonnie Sinnock, *HSBC Abandons Financial Units*, NAT'L MORTGAGE NEWS, Mar. 9, 2009, at 18 (same).

⁴³¹ See APRIL 2009 IMF GFS REPORT, *supra* note 419, at 38, 39 tbl.1.7.

⁴³² See *id.* at 39 tbl.1.7 (indicating that U.S. authorities have provided \$4.66 trillion of support, including \$980 billion of central bank liquidity assistance, \$1.85 trillion of asset purchase commitments, and \$1.83 trillion of financial guarantees); see also APRIL 2009 COP TARP REPORT, *supra* note 424, at 24 fig.1 (indicating that the U.S. Treasury, FRB and FDIC have provided a total of \$4.44 trillion of support for financial institutions, including \$520 billion of "Outlays," \$2.04 trillion of "Loans," \$1.76 trillion of "Guarantees," and \$110 billion of "Uncommitted TARP Funds").

⁴³³ See APRIL 2009 IMF GFS REPORT, *supra* note 419, at 27, 28 tbl.1.3 (indicating that "Banks" are expected to record \$2.8 trillion of writedowns on loans and securities through 2010, while "Insurers" are expected to record \$300 billion of such writedowns); *supra* note 422 and accompanying text (stating that banks had lost \$910 billion and insurers had lost \$220 billion as of March 2009).

⁴³⁴ See APRIL 2009 IMF GFS REPORT, *supra* note 419, at 32 (stating that "we project banks could incur roughly \$2.8 trillion in credit-related writedowns over 2007–2010 . . . of which about one-third have already occurred").

- To rely primarily on market mechanisms and “soft” supervisory guidance in order to direct the conduct of LCFIs, while giving little or no attention to the adoption and enforcement of binding rules (including rules that would protect consumers from deception and other abusive practices by financial institutions);
- To promote the use of quantitative risk models—such as FICO credit scores for consumers and internal “value at risk” (VAR) models for LCFIs—as substitutes for traditional methods of evaluating the risks of customers and financial institutions;
- To allow LCFIs to replace traditional methods of credit intermediation—in which banks screened and monitored borrowers and held loans on their balance sheets—with an OTD strategy that used structured-finance securitization and OTC derivatives to transfer the risk of loans to far-flung investors who had little or no opportunity to screen and monitor borrowers;
- To support decisions by LCFIs to shift away from traditional, deposit-based, relationship-based business lines toward novel fee-based, transaction-based business lines that (i) were closely tied to the capital markets and (ii) relied on continuous funding from the capital markets; and
- To promote the continued consolidation of the financial services industry based on the belief that larger and more diversified financial conglomerates would be safer and more profitable.⁴³⁵

A number of critics have argued that the regulatory policies of the past two decades were counterproductive and harmful. Critics have alleged that those policies impaired the safety and soundness of financial institutions and undermined the stability of financial markets and the general economy, because they encouraged:

- An excessive reliance by LCFIs and regulators on quantitative, market-sensitive measures of risk and capital, which had the effect of accentuating booms and aggravating busts in the

⁴³⁵ See, e.g., TURNER REVIEW, *supra* note 185, at 14–25, 39–49; CONG. OVERSIGHT PANEL, 111th Cong., SPECIAL REPORT ON REGULATORY REFORM: MODERNIZING THE AMERICAN FINANCIAL REGULATORY SYSTEM: RECOMMENDATIONS FOR IMPROVING OVERSIGHT, PROTECTING CONSUMERS, AND ENSURING STABILITY, 2–5, 8–21 (2009), available at <http://cop.senate.gov/documents/cop-012909-report-regulatoryreform.pdf> [hereinafter JANUARY 2009 COP REGULATORY REFORM REPORT]; Blundell-Wignall & Atkinson, *supra* note 200, at 55–56, 70–77, 90–99; McCoy et al., *supra* note 423 (manuscript at 9–10, 16–23, 28–35); Wilmarth, *supra* note 13, at 437–69; see also *supra* notes 16–49 (describing governmental encouragement for consolidation and conglomeration in the financial services industries of the U.S., U.K. and Europe); *supra* notes 230 and 293 and accompanying text (discussing heavy reliance by residential mortgage lenders on the FICO credit scores of borrowers).

business cycle;

- An overuse of structured-finance securitizations and OTC derivatives, which created complex and opaque risk exposures and a fragile web of interconnections among LCFIs and various sectors of the financial markets;
- A greater dependence by LCFIs on access to continuous funding from the capital markets, which increased the vulnerability of the financial system to liquidity shortages and panics;
- A failure to restrain the growth of systemic risk within LCFIs; and
- A misplaced confidence in market discipline as an effective restraint on excessive risk-taking and abusive practices by LCFIs.⁴³⁶

On the last point, observers have highlighted that market discipline is inherently procyclical, because it is too lax during euphoric “bubbles” and too extreme during panic-induced “busts.”⁴³⁷ In addition, the effectiveness of market discipline is undermined by “self reinforcing herd and momentum effects,” which cause market participants to follow the herd even when they have doubts about the wisdom of the course the herd is pursuing.⁴³⁸

Two striking examples of the power of herd mentality appeared in public statements made by the chief executive officers of BofA and Citigroup shortly before the LBO financing boom collapsed in the late summer and early fall of 2007.⁴³⁹ In May 2007, Kenneth Lewis gave a speech in Zurich, Switzerland, in which he boasted that BofA had participated in seven of the fifteen largest LBOs during 2007.⁴⁴⁰ However, during the question-and-answer period after his speech, Mr. Lewis admitted that “[w]e are close to a time when we’ll look back and say we

⁴³⁶ See, e.g., TURNER REVIEW, *supra* note 185, at 39–49; JANUARY 2009 COP REGULATORY REFORM REPORT, *supra* note 434, at 22–37; Blundell-Wignall & Atkinson, *supra* note 200, at 96–101; Borio, *supra* note 98, at 10–14, 21; McCoy et al., *supra* note 423 (manuscript at 16–34); Wilmarth, *supra* note 13, at 444–69; see also DANIEL K. TARULLO, BANKING ON BASEL: THE FUTURE OF INTERNATIONAL FINANCIAL REGULATION 98–108, 120–21, 131–35, 139–41, 149–90 (2008) (presenting a critique of the Basel II capital accord, including the accord’s heavy reliance on internal risk models developed by LCFIs).

⁴³⁷ TURNER REVIEW, *supra* note 185, at 41–42, 45–47; Arthur E. Wilmarth, Jr., *How Should We Respond to the Growing Risks of Financial Conglomerates?*, in FINANCIAL MODERNIZATION AFTER GRAMM-LEACH-BLILEY 65, 110–13 (Patricia A. McCoy ed., 2002); see generally Shiller, *supra* note 190.

⁴³⁸ TURNER REVIEW, *supra* note 185, at 40–41; see also Shiller, *supra* note 190, at 157–72.

⁴³⁹ See *supra* note 412 and accompanying text (discussing the collapse of the LBO financing boom in 2007).

⁴⁴⁰ *Id.*, *supra* note 412 (reporting on Mr. Lewis’ speech in Zurich, in which Mr. Lewis declared that “[t]here is tremendous value in being able to provide a strong balance sheet to arrange large, complex financial transactions”).

did some stupid things We need a little more sanity in a period in which everyone feels invincible.”⁴⁴¹ Two months later, Chuck Prince of Citigroup famously declared, during an interview with the *Financial Times*, that “[w]hen the music stops, in terms of liquidity, things will be complicated. But, as long as the music is playing, you have got to get up and dance. We are still dancing.”⁴⁴² The statements by Messrs. Lewis and Prince demonstrate that even the top executives of the world’s largest banks feel compelled to follow the herd.

On the second point concerning government bailouts, I have previously argued—in an article published three years after GLBA’s passage—that the “too big to fail” (TBTF) policy is “the great unresolved problem of bank supervision.”⁴⁴³ In that article, I contended that GLBA was likely to make the TBTF problem much worse by “extend[ing] the scope of the TBTF subsidy to reach nonbank affiliates of large financial holding companies.”⁴⁴⁴ GLBA’s authorization of large financial holding companies also increased the likelihood that “major segments of the securities and life insurance industries will be brought within the scope of the TBTF doctrine, thereby expanding the scope and cost of federal ‘safety net’ guarantees.”⁴⁴⁵ I further warned that the risk control measures relied upon by GLBA’s supporters were inadequate.⁴⁴⁶ I predicted that the new financial holding companies would almost certainly exploit TBTF subsidies because

the unmistakable lessons of the past quarter century are that (i) regulators will protect major financial firms against failure whenever such action is deemed necessary to preserve the stability of financial markets; and (ii) financial institutions will therefore pursue riskier and opaque activities and will increase their leverage, through capital arbitrage, if necessary, as they grow in size and complexity.⁴⁴⁷

Unfortunately, the subprime financial crisis has confirmed all of the foregoing predictions. Over the past decade, regulators in developed nations encouraged the expansion of large financial conglomerates and failed to restrain their pursuit of short-term profits through increased leverage and high-risk activities. As a result, LCFIs were allowed to

⁴⁴¹ *Id.* (quoting Mr. Lewis’ remarks as reported by Bloomberg News).

⁴⁴² *Counting the reasons not to be cheerful*, INVESTMENT ADVISER (FT Business), July 23, 2007 (quoting from Mr. Prince’s interview, and observing that “[c]ommentator RJH Adams nicely described [Mr. Prince’s statement] as ‘perhaps the perfect tour d’horizon of the state of liquidity affairs from any big lender’s perspective: it may end badly but they are compelled to play’”).

⁴⁴³ Wilmarth, *supra* note 13, at 475.

⁴⁴⁴ *Id.* at 446.

⁴⁴⁵ *Id.* at 447.

⁴⁴⁶ *Id.* at 454–75.

⁴⁴⁷ *Id.* at 476.

promote an enormous credit boom, and that boom precipitated a worldwide financial crisis. In order to avoid a complete collapse of global financial markets, central banks and governments have already provided almost \$9 trillion of support (in the form of emergency liquidity assistance, capital infusions, asset purchase programs, and financial guarantees) for major banks, securities firms and insurance companies.⁴⁴⁸ Those support measures—which are far from over—establish beyond any doubt that the TBTF policy now embraces the entire financial services industry.⁴⁴⁹ Accordingly, there is a pressing need to reform the regulation of financial institutions and financial markets with the goal of (i) eliminating (or at least greatly reducing) TBTF subsidies and their moral hazard effects, and (ii) establishing effective control over LCFIs.⁴⁵⁰ I intend to evaluate potential reform measures in future work.

⁴⁴⁸ See *supra* notes 424–32 and accompanying text (describing bailout packages and other support measures provided by the U.S. and other developed nations to LCFIs during the subprime financial crisis).

⁴⁴⁹ I previously argued this point in an article published last year. Arthur E. Wilmarth, Jr., *Subprime Crisis Confirms Wisdom of Separating Banking and Commerce*, 27 BANKING & FIN. SERV. POL'Y REP. NO. 6, May 2008, at 1, 5–7, available at <http://ssrn.com/abstract=1263453>. Further evidence of the comprehensive reach of the TBTF policy is provided by the federal government's recently-announced “stress test” for the nineteen largest U.S. banking organizations (each having more than \$100 billion of assets). In announcing the “stress test,” federal regulators emphasized that none of the banks would be allowed to fail the test, because the government would provide any capital that was needed to ensure the survival of all nineteen banks. In this regard, William Dudley, President of the Federal Reserve Bank of New York, stated:

The point of the stress assessment is not to pick winners or losers, but instead to ensure that the banking system and all the major banks have sufficient capital to withstand a very adverse environment. Following the conclusion of the stress assessment process, the government is committed to supplying whatever amount of capital is needed to ensure that all the major banks will remain viable.

William C. Dudley, Remarks at the Council on Foreign Relations Corporate Conference (Mar. 6, 2009), available at <http://www.newyorkfed.org/newsevents/speeches/2009/dud090306.html>; see also Steven Sloan, *Bernanke: 'Don't Need' to Nationalize Weak Banks*, AM. BANKER, Feb. 25, 2009, at 1, available at LEXIS, News Library, AMBNKR File (quoting FRB Chairman Ben Bernanke's affirmation during congressional testimony that “[w]e are committed to ensuring the viability of all the major financial institutions”).

⁴⁵⁰ See, e.g., JANUARY 2009 COP REGULATORY REFORM REPORT, *supra* note 434, at 19–30; see also Ben Bernanke, Chairman, Federal Reserve Board, Speech at the Council on Foreign Relations (Mar. 10, 2009), available at <http://www.federalreserve.gov/newsevents/speech/bernanke20090310a.htm> (acknowledging that “in the present crisis, the too-big-to-fail issue has emerged as an enormous problem Looking to the future . . . it is imperative that policymakers address this issue”).