PART
One

The Crises That Led to Derivatives Reform

CHAPTER 1

Seven Causes of the 2008 Market Crises

A broken machine cannot be fixed without understanding what caused it to break. In the absence of an accurate understanding of the 2008 market crises, and if effective responses to identified causes are not properly implemented, history may repeat itself. With the fall of MF Global on October 31st, 2011, it may have already.

In fact, in at least some respects recent history repeated itself in September 2011 when massive losses—to the tune of $2.3 billion—at UBS AG resulted from derivatives trades by Kweko Adoboli, a 31-year-old Ghanaian and former UBS trader. Adoboli's trades, based on futures and exchange-traded funds or ETFs, did not set off alarms because the regulatory framework governing those trades did not require trade confirmations for some of Kweko's trades, and proper audit trails, reporting, and monitoring mandates (included in U.S. reforms as we shall see in Chapter 4) were not in place to detect or prevent the trading activity which led to billions in losses.

It is shocking that banks lost billions and the market globally lost trillions in September 2008, and then, exactly two years later, a well-regarded European bank, UBS, sustained billions in loses arising out of ETF and futures trades. One conclusion suggested by this development is that either the causes of the 2008 market crises were not properly identified, or were not in the ensuing years remedied—or both.

This chapter includes the author's short list of primary causes of the 2008 market crises. Although there were more than seven contributing factors, these were the primary causes, or major contributors, that coalesced to result in the 2008 market crises:

1. An incomplete federal response to certain problems that surfaced in the bankruptcy of Enron Corp.
2. The failure of effective regulation (both internally, by means of intra-company controls, and externally, through government regulation) to rein in excessive risk taking and leverage in markets.

3. The development of an unregulated, global, over-the-counter (OTC) derivatives market.
4. The migration of trading from bonds to OTC derivatives due to the implementation of the Trade Reporting and Compliance Engine (TRACE) and the allure of credit derivatives by those who previously traded in the bond and other cash markets.
5. The unrestricted, unmonitored, and reckless use of mortgage origination and private-label residential mortgage-backed securities.
6. U.S. policy that fostered home ownership and government-sponsored enterprise (GSE) mismanagement.
7. Derivatives and structured product accounting practices.

Developing a basic understanding of the causes of the 2008 market crises will help us understand why lawmakers and regulators required certain changes in the derivatives market, and whether the solutions implemented by regulators will prevent later crises.

At least one academic believes that financial services reform legislation enacted in the United States would not have prevented the 2008 market crisis, as reported by the International Financing Review in May 2011:

> *The Dodd-Frank Wall Street Reform and Consumer Protection Act—and its mandate of clearing as much of the over-the-counter derivatives market as possible through central counterparties—would not have prevented the financial crisis of 2008, according to renowned derivatives academic John Hall . . . Supposing Dodd-Frank was in place five years ago, and around 70% of DTC derivatives went through CCPs* [*central clearing parties*]. *I don't think it would have made a whole lot of difference.*[1]

There are still other important reasons for developing an understanding of the 2008 market crises. Joseph Stiglitz, in his book *Freefall*, noted:

> *If we can understand what brought about the crisis of 2008 and why some of the initial policy responses failed so badly, we can make future crises less likely, shorter, and with fewer innocent victims. We may even be able to pave the way for robust growth based on solid foundations . . . to ensure that the fruits of that growth are shared by the vast majority of citizens.*[2]

IGNORING THE WARNING SIGNS

As the seven causes are discussed in this chapter, it will become apparent that many saw warning signs but no sufficient, collective action averted

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the market crises until the damage was done. In some cases, responses to past crises, such as the failure of Enron Corp., missed the true causes and dynamics of the market failures, and the stage was set for the subsequent market crises of 2008. In other cases, such as the most recent responses to the 2008 crises, lawmakers appear in many respects to have overreacted. This suggests that lawmakers need to better hear and act upon the next voices calling attention to factors leading to major losses before the next economic calamity takes root, begins to emerge, and causes systemic losses—yet again.

With respect to the 2008 market crises, even as the global economic machine was breaking, it seemed as if many leading economic policy makers and governments in major markets were collectively surprised by the depth of the downturn, notwithstanding repeated, pervasive and persuasive warnings that fundamental problems were literally all over the place. In a study by the Institute for the Study of Labor, the Institute explains:

> [*F*]*or much of 2008, the severity of this global downturn was underestimated. Subsequently, leading forecasters, including the IMF and World Bank, made a number of revisions to its growth forecasts during 2008 and into 2009 as the magnitude of the crisis grew. Of course there were some voices that issued dire warnings of a brewing storm, but they were not enough to catch the attention of many who were lulled into a collective sense of complacency in the years leading up to the crisis. Some policy makers, after being caught by surprise at the seemingly sudden appearance of a global downturn, confidently noted that nobody could have predicted the crisis. . . . Following the events of 2008, particularly the collapse of Lehman Brothers in September, risk-loving banks and investors around the world rapidly reversed their perceptions. . . . Some commentators even questioned whether American-style capitalism itself had been dealt a deathblow.*[3]

Derivatives have long been a source of significant concern as a destabilizing force for the financial system and for the global economy. Some say that in a February 21, 2003 letter to investors, Warren E. Buffett essentially foretold the 2008 market crises:

> *The derivative genie is now well out of the bottle, and these instruments will almost certainly multiply in variety and number until some event makes their toxicity clear. Knowledge of how dangerous they are has already permeated the electricity and gas businesses, in which eruption of major troubles caused the use of derivatives to diminish dramatically. Elsewhere, however, the derivatives business*

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> *continues to expand unchecked. Central banks and governments have so far found no effective way to control, or even monitor, the risks posed by these contracts . . . derivatives are financial weapons of mass destruction, carrying dangers that, while now latent, are potentially lethal.*[4]

A recurring pattern in economic crisis and resulting lawmaking is that, unless comprehensive, intelligent, and carefully coordinated, international action results from lawmaking, history will repeat itself. We see glimpses of that—as discussed in this chapter—from the crises and disjointed lawmaking in the United States that resulted after the savings and loan crisis, the fall of Long-Term Capital Management L.P., and Enron Corp. After each of the crises, Congressional inquiries resulted and laws, such as the Sarbanes-Oxley Act[5] took legal effect but because the resulting laws did not address, in a careful, coordinated way, many of the *derivatives-related* issues leading to the failure of Enron and to the 2008 market crises, subsequent losses were experienced by UBS two years later.

MORE THAN SEVEN CAUSES OF THE 2008 MARKET CRISES

Certainly there were more than seven causes of the 2008 market crises, but those discussed here played the most significant roles in causing the greatest economic loss and destruction. None of the causes was the sole or even greatest cause, yet each *coalesced* over time to create the 2008 market crises, resulting in a global rethink of how our financial system functions, how it is structured, regulated—or not—and how the system must change to prevent future economic crises.

A 10-member U.S. Financial Crisis Inquiry Commission (which is referenced in the pages that follow as the Crisis Commission) published 545 pages of findings in January 2011 that included, in many respects, great disagreement on the causes of the 2008 market crises. The report is comprised of both a majority and a minority argument, with members of the Crisis Commission in the minority stating that their written contribution to the report was limited to nine pages each.[6]

The Crisis Commission undertook an admirable, Herculean effort to identify the causes of the 2008 crises. Much of what the Commission found and later recorded was, the author believes, on-point and completely accurate.

However, when the Crisis Commission addressed the role played in the 2008 market crises by derivatives, many of the statements in the report published by the Crisis Commission were overstated or simply wrong.

Many of those statements were wrong because members of the Crisis Commission, writing in the majority, apparently could not tell the difference between the derivatives that many companies in the mainstream use every day to manage risk on the one hand, and derivatives that enabled big players like Lehman Brothers and American International Group Inc. (AIG) to pursue excessive risk taking, on the other. One of many statements in the Commission's report illustrates the lumping together of derivatives-related criticisms by the Crisis Commission:

> *We conclude* [*that*] *over-the-counter derivatives contributed significantly to this crisis . . . when the housing bubble popped and crisis followed, derivatives were in the center of the storm.*[7]

There are, as we will see in our survey of nearly all derivatives in Chapter 10, at least seven categories of derivatives that comprise a global OTC derivatives market, valued at one time as high as $615 trillion, yet only the credit default swap and financial structures based on pools of residential mortgages are later identified by the Crisis Commission as *the primary* cause of the crisis (or if not the primary cause, a leading or at least critically important cause). Even so, as the quote above indicates, *all* OTC derivatives are branded significant contributors to the 2008 crises. The quote above is simply not an accurate statement. It lacks precision.

However, derivatives appear to be so important as a cause of the crises to the Crisis Commission majority that the *Crisis Commission Report* includes six pages of analysis under the heading "The Growth of Derivatives: By Far the Most Significant Event in Finance During the Past Decade."[8] The analysis concludes with this statement:

> *When the nation's biggest financial institutions were teetering on the edge of failure in 2008, everyone watched the derivative markets. What were the institution's holdings? Who were the counterparties? How would they fare? Market participants and regulators would find themselves straining to understand an unknown battlefield shaped by unseen exposures and interconnections as they fought to keep the financial system from collapsing.*[9]

This statement is wrong in several rather obvious respects. First, the statement from the Crisis Commission majority begins with the notion that

"everyone watched the derivatives markets." This is simply not possible. The OTC derivatives markets that were used by the biggest financial institutions (i.e., institutions that are generically referenced in the preceding statement were none other than the OTC markets) cannot, by their very nature before 2010, be watched by everyone, as the Crisis Commission majority writes. These are markets of privately-negotiated trades.

In fact, a few pages earlier in their report, the majority refers to the OTC markets in derivatives as markets that are, by their very nature, *not* transparent (and thus cannot be watched); price discovery is neither possible nor available to the public, according to the majority:

> *OTC derivatives are traded by large financial institutions—traditionally, bank holding companies and investment banks—that act as derivatives dealers, buying and selling contracts with customers. Unlike the futures and options exchanges, the OTC market is neither centralized nor regulated. Nor is it transparent, and thus price discovery is limited. No matter the measurement—trading volume, dollar volume, and risk exposure—derivatives represent a very significant sector of the U.S. financial system.*[10]

The Commission majority's statement (i.e., that OTC derivatives caused or were primary drivers of the 2008 market crises) leads the reader to believe that, as Bear Stearns and Lehman Brothers were failing, everyone had their eyes locked on the markets for *all* derivatives and the well-being of the *entire* financial system teetered on bank dependence—and on the performance of—*all* OTC derivatives. This simply is not accurate. Not only did the markets for foreign exchange (FX) and interest rate derivatives properly function, the listed derivatives markets performed properly.

The use in the market of the specific derivatives that the Crisis Commission blames for losses was, in fact, relatively small in comparison to the multitrillion dollar market worldwide, yet all OTC derivatives are seemingly blamed by the majority in the Crisis Commission.

The Hon. Bill Thomas, writing with his Crisis Commission colleagues in the minority on the role played by derivatives in the 2008 market crises, made this lucid comment:

> *While many* [*of the problems leading to the 2008 market crises*] *involve the word "derivative," it is a mistake to bundle them together and say, "Derivatives or CDOs caused the crisis." In each case, we assign responsibility for the failures to the people and institutions rather than to the financial instruments they used.*[11]

The takeaway is that, like fire, derivatives can cause and certainly have caused losses; however, no analysis should lay blame solely or even primarily on *all* derivative products in the world today, yet the reality is that many do exactly this.

The result is a flurry of imprecise, fear-laden statements relating to derivatives in the media and, after the crisis and early reform from government, excessive regulation of derivatives. This served as a catalyst for this book.

Some Derivatives Were in Fact Part of the Problem

Just like it is inaccurate to state that all derivatives caused the 2008 crises, it is also inaccurate to state that no derivative contributed to the crises. In fact, two derivatives in the credit derivative family played important roles in the market seizures: the collateralized debt obligation (CDO) and credit default swap (CDS). When critics of derivatives refer to them as "weapons of mass destruction" or "the nuclear option,"[12] the derivatives that in some cases deserve these titles are those structures which were recklessly used in an opaque market. A CDO, however, is not your mainstream, garden-variety derivative, as its structure, depicted in Figure 1.1, suggests.

A more detailed description of the numerous interrelated transactions that comprise a CDO (or as illustrated in Figure 1.1, a CDO^2) is included in Chapter 10: Survey of Derivatives. A summary is provided here, after a few observations. First, the design and structure of the CDO are elegant and have evolved over time in the class of transactions that are labeled "securitization." Essentially, the design converts regular cash flows into securities (bonds), which are issued to investors, and the proceeds from those bond issuances are used to fund the assets (commercial or residential mortgages), which produce the cash flows that are used for repaying the issued bonds. Sounds circular?

The roles of each of the entities within Figure 1.1 can be summarized in this way. The most important entity is the Issuing SPE Trust depicted in the figure. The SPE is a special purpose entity, whose corporate form is a trust, which is formed by a sponsor such as a large bank. The sole function of the SPE (its only, or "special" function or purpose) is to acquire rights to a regular or periodic stream of cash-producing assets (such as residential mortgages, let us say), and then issue bonds whose coupons are based on that stream.

In the top left-hand corner of Figure 1.1, a bank plays the role of loan originator, and the bank's proceeds go to the obligors of the loan, which could be users of credit cards or buyers of a home. These obligors voluntarily

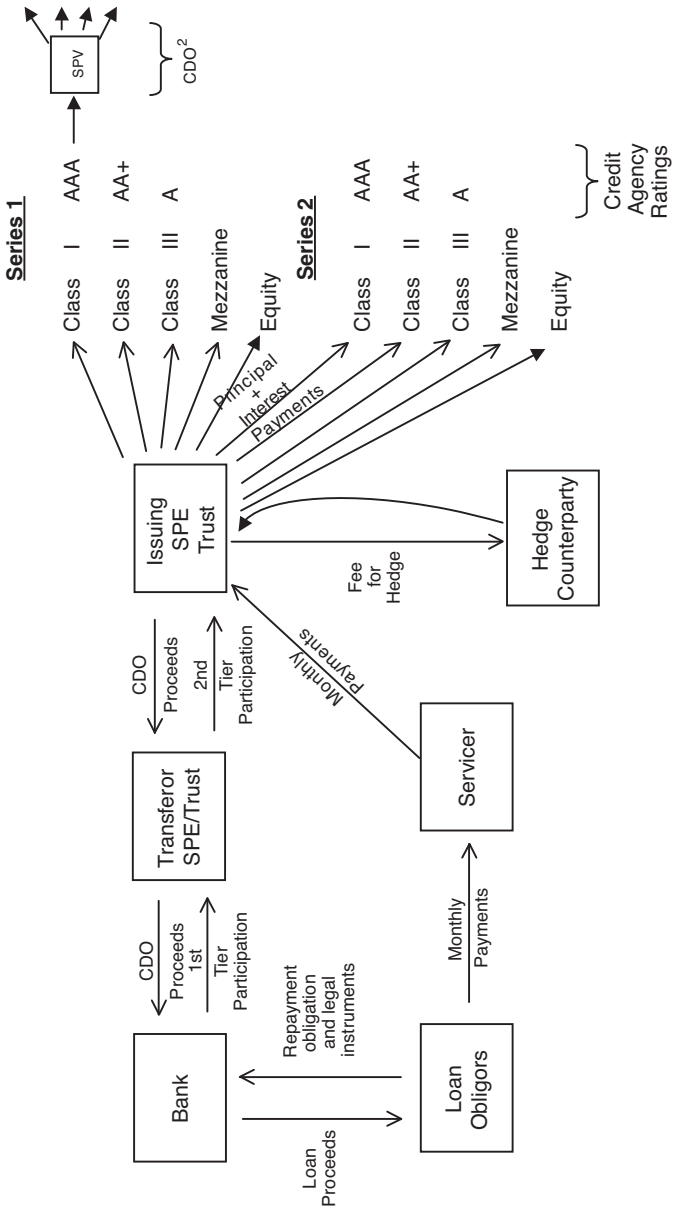

FIGURE 1.1 Collateralized Debt Obligation

or by request or demand by a servicer make monthly payments, which are then cycled through to the SPE, which uses those monthly payments to pay principal and interest on the bonds issued to investors by the SPE. When the obligors execute documents and instruments in exchange for the loan proceeds, that paperwork becomes part of an asset file which is executed and delivered to the bank, which in turn sells the interests (i.e., a participation interest, or sells the assets outright) in the instruments (in the example of a CDO referencing residential mortgages, the mortgages) to a Transferor, which is an SPE organized as a trust, that in turn legally transfers those interests to the SPE issuing the bonds. The SPE issues those bonds in tranches (French for slices), which credit rating agencies rate (except, typically, the mezzanine or equity tranches).

The tranches of bonds issued by the SPE have different risk characteristics, and thus, different ratings. These characteristics are driven in part by the payment stream that begins with the loan obligors. The highest-rated, senior tranches in each series of bond issuances (in Figure 1.1, Class I is rated AAA) are paid first from the cash flows generated by the underlying assets, before the junior securities and equity securities. When an underlying asset such as a mortgage is in default, this interrupts the cash flow to the bond holder, and losses are first borne by the equity and mezzanine tranches (which are typically owned by the sponsor of the securitization; CDO sponsors are in that way said to have "skin in the game" because they stand to lose first), then after that, the more senior bond holders bear losses, all the way to the top, where the senior-most and highest-rated bonds are held.

The entire structure depicted by Figure 1.1 is a derivative within the credit derivative family (the bonds *derive* their value from, among other things, the underlying [mortgage] assets), and derivatives are used within the CDO itself for a number of purposes, including to match the bond repayment obligations owed by the SPE to the bondholders with the cash streams from the underlying obligors. Also, as a source of revenue, some SPEs would enter into credit default swaps (or CDS, which are discussed in this chapter and Chapter 10). The CDO tranches are themselves subject to CDSs in which one party sells protection (like insurance) to another for a fee, in exchange for reimbursement based on the recovery rate of the defaulted tranche. Finally, some buyers of bonds issued by the CDO SPE were themselves trusts, or SPVs (special purpose vehicles, a synonym for SPEs), which, after buying a bond from an SPE, would include that bond in a portfolio of hundreds of other CDO bonds, and then issues bonds based on the payment streams from the portfolio of CDOs.

Certainly the CDO and accompanying derivatives played a role in the global 2008 market crises, but that role was not itself the cause of those crises. These were the seven most significant developments that brought us to the reform that changed the entire landscape of derivatives.

AN INCOMPLETE RESPONSE TO PROBLEMS EXPOSED IN THE ENRON BANKRUPTCY

We begin the discussion of the causes of the 2008 market crises nearly a decade before the crises, with the failure of Enron Corp., and the mentality among finance professionals and financial tools which they used in the years in between the Enron and 2008 market crises.

This is the starting point for the author, because it was in the immediate aftermath of the Enron bankruptcy that I began to work extensively in derivatives and structured finance, and many problems associated with Enron resurfaced nearly a decade later in the 2008 market crises.

Many believe that Enron was an energy company. In fact, it was an aggressive energy *derivatives* trading company and derivatives market—all dressed-up as, and largely regulated as, an energy company. The words dressed-up are used by design because, as we will see later in this chapter, just prior to the 2008 market crises, there were many legal structures (real estate investment trusts, or REITS, are one example) which were dressed up as real estate companies, but really they functioned in some ways as commercial banks—but were not regulated as such.

In 2000, I worked as a fifth-year associate of a leading Washington, DC law and public policy firm which was retained by an international investment bank whose employees were required to appear before Congress in connection with a series of investigations. A series of public hearings on the use of derivatives and structured financial products by Enron prior to its bankruptcy was televised by C-SPAN. Also subject to Congressional inquiry were statements by the bank's analysts, the timing of those statements, and the credit ratings assigned to Enron debt.

Throughout the Enron crisis and thereafter, I became completely submerged in what I call Enron finance, which included, as its key component parts, the widespread use of SPEs and derivatives such as prepaid forwards, which I discuss in Chapter 10. My task then was to first understand Enron finance, translate it into plain English, and distinguish it from lawful business practices. Over time, while watching firsthand in hearings on Capitol Hill in Washington, DC, I witnessed Congressional lawmaking firsthand, frequently interfaced with key lawmakers and their excellent staff, and saw the legislative answer to Enron—and all the destructive fallout that took place after the company filed for bankruptcy on December 2, 2001.

Between December 2001 and April 2002, Congress held numerous hearings that led to its passage of the Sarbanes-Oxley Act[13] on July 30, 2002. Although there is no question that some good came from this law, generally, it was designed to prevent corporate governance and accounting misdeeds.

However, I quickly learned in my Enron-related work that corporate misgovernance was neither the only problem nor even the biggest problem posed by Enron.

Enron was a derivatives trading company whose failure should have caught our collective attention and focused it not only on the need to revamp the corporate governance practices of public companies in the United States, but on the unregulated use of Enron finance.

Enron finance entailed the use of off-balance-sheet structures that were replete with SPEs, intracompany dealings, and, most importantly for purposes of this book, derivatives and other sophisticated transactions which mischaracterized liabilities as assets and otherwise hid from the public the problems that Enron experienced.

Although detailing all the intricacies of Enron finance is outside of the scope of this book, a summary description of Enron finance, Enron, and then its demise is necessary.

Enron Corp. as a Major Derivatives Player

Many thought of Enron as an energy company, but by its last year of corporate existence it was in reality a full-fledged derivatives trading firm with an enormous and highly sophisticated trading floor. Enron began as an energy company but over time used unregulated derivatives and structures both within the company, among its affiliates, and with counterparties that were not affiliates of Enron.

SPEs According to the Powers Report (the February 1, 2002 Report of the Special Investigation Committee of the Board of the Enron Corp., chaired by William Powers, whose outside counsel included a Vanderbilt Law School classmate of the author, Reed Brodsky, then of Wilmer, Cutler, and Pickering), many of the deceptive transactions employed by Enron, in loans and prepaid forwards as well as other structures, included devices used in Enron finance called special purpose entities or SPEs. Accounting rules permitted Enron to establish an SPE, which is itself a corporate entity, and do business with it in such a way that the SPE served and functioned as an independent, outside entity for accounting purposes, provided that, "an owner independent of the company makes a substantive equity investment of at least 3 percent of the SPE's assets, and that 3 percent must remain at risk throughout the transaction; and the independent owner must exercise control of the SPE."[14]

If the foregoing conditions are satisfied, Enron could, with its transactions (including unregulated derivatives) record gains and losses in transactions with its SPEs *yet the assets and liabilities of the SPE are permitted to be omitted from the SPE's counterparty's (i.e., Enron's) balance sheet.*[15]

Although Enron, which was once an exceedingly well-recognized U.S. corporation, began as an energy company when it was created in 1985, its OTC, derivatives-related assets and liabilities increased by more than fivefold from 1985 to 2000, and its consolidated financial statements that year indicated that its nonderivative operations were generating a loss.[16]

Enron's derivatives activities were undertaken both internally, among SPEs and other affiliates, and externally by means of its own trading enterprise, EnronOnline.[17] Testimony by derivatives expert and professor Frank Partnoy in 2002 clearly and cogently stated that Enron, while touted as a successful energy firm, was instead a derivatives firm that covered its own losses:

> *Enron's aggressive additions to revenues meant that it was the "seventh-largest U.S. Company" in title only. In reality, Enron was a much smaller operation, whose primary moneymaking business—a substantial and speculative derivatives trading operation—covered up poor performance in Enron's other, smaller business, including EnronOnline. Enron's public disclosures show that during the past three years the firm was not making money on its non-derivatives business. Gross margins from these businesses were initially zero from 1998 through 2000.*[18]

The federal response to the fall of Enron Corp. in the United States generally brought about reform in the corporate governance of public companies, but it missed almost entirely the misuse of SPEs and structured products which allowed the products described on the previous pages to fuel global financial instability.

At the end of 2001, after filing for bankruptcy, Enron Corp. became the subject of U.S. Congressional investigations, including one by the Senate Permanent Subcommittee on Investigations, which issued a report critical of biased analyst recommendations, conflicts of interest, and the lack of objective credit rating agency ratings regarding complex derivatives and structured products. Members of the Senate subcommittee and members of Congress in the House of Representatives focused on more than $8 billion in deceptive prepay forward transactions and other structured transactions that were provided to Enron for a fee, in order for Enron to manipulate its financial statements or deceptively reduce its tax obligations.

The collapse of Enron occurred at a time when numerous high-profile scandals were the subject of a series of local and federal investigations and televised hearings, all culminating in the passage of comprehensive federal law, Sarbanes-Oxley, which required among other things accountants to certify the accuracy of accounting statements.

ENRON FINANCE USED BY BANKS AND THE LACK OF REGULATION

The problem was that the Enron crisis was viewed as *an accounting crisis*, first and foremost, and the U.S. government failed to see greater, underlying problems that would fuel the market crises that led to the 2008 market crises: the use of off-balance-sheet, SPE-based structures coupled with sophisticated derivatives. This was–or should have been–lesson one.

One of the central problems related to Enron's collapse was the roles played by large investment banks. Years after the repeal of Glass-Steagall (described later in this chapter), the large investment banks which provided derivatives and structured products to Enron were simultaneously recommending Enron securities in published buy recommendations to investors (and supplying Enron with questionable structured products). Economist Joseph Stiglitz stated that one of the remnants of the elimination of key banking regulation was a greater propensity for banks to take risks, and the result of that was internal conflicts of interests within banks that were previously kept in check by federal laws, such as the Glass-Steagall Act:

> *The repeal of the Glass-Steagall Act played an especial* [*sic*] *role, not just because of the conflicts of interest that it opened up (made so evident in the Enron and WorldCom scandals) but because it transmitted the risk-taking culture of investment banking to commercial banks, which should have acted in a far more prudential manner.*[19]

A second major lesson taught by Enron that should have resulted in reform was that Enron finance was anything but regulated, and, for the most part, Enron set into motion this brand of financing privately, off its balance sheets, away from regulators and the market. Part of this is due to the regulation-free environment that developed after the passage of the Commodity Futures Modernization Act of 2000, which, as described later in this chapter and subsequent chapters, such as Chapter 8, ensured the deregulation of OTC derivatives for, among other purposes, the United States to maintain its competitive position in OTC derivatives trading.

Enron failed in a regulatory climate that fostered a hands-off approach by regulators, and the resulting chain reaction in 2008 is illustrated here:

- Banks put at risk, through excessive amounts of leverage, themselves and the financial system.
- By 2008, banks used many thousands of SPEs in complicated financial structures and used accounting, tax, and other practices to push the envelope in ways that were as aggressive as Enron Corp. in

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transactions that, while quite different, were the same in some important respects (e.g., many were off-balance-sheet transactions).
- SPEs sponsored by the banks issued bonds or debt.
- Credit-rating agencies rated that debt, but in 2008 failed to measure risk and downgrade many firms, such as Bear Stearns, in much the same way that credit-rating agencies were slow to downgrade Enron.
- Neither the Securities and Exchange Commission (SEC) nor the Commodities Future Trading Commission (CFTC), including the U.S. Federal Energy Regulatory Commission, detected the massive systemic risk posed by the system of SPEs, nor did they rate debt and derivatives that accompanied such debt; the regulators' failure to detect and issue warnings concerning the systemic risk in many ways resembled the regulators' failure to prevent or warn the market of the improper use of structured finance by Enron.
- In April 2010, Congress scrutinized investment banks' purported conflicts of interest in the same way that analysts in banks were scrutinized in early 2002 for their statements and ratings.
- Just as SPEs were an integral part of Enron finance, SPEs were bankruptcy-remote entities that were critically important in taking pools of real estate mortgages from originators and enabling bonds to be issued to investors (which would include other SPEs) in an elegantly complex process described in this chapter and in Chapter 10 as securitization.

If, following Enron, a complete rethink by policymakers would have taken place, and during that process Enron's fall was not viewed as a corporate governance problem but instead as a collection of derivatives, structured finance, conflicts of interest, and accounting problems, then perhaps lawmakers could have been positioned to prevent the 2008 market crises. Perhaps the most egregious misstep by lawmakers and regulators was their failure to view the Enron experience as a major failure within the OTC derivatives market, instead of just as a public company accounting scandal.

THE ABSENCE OF EFFECTIVE REGULATION

Bank regulation is like a game of cat and mouse in which the mouse is smarter, earns more money, and gets to make the first move. Institutions hire bright people to devise ways to exploit loopholes in the system to try to increase profits and stay ahead of competitors and regulators alike. They often succeed, and their success can cost a fortune . . . technological advances had enabled bankers to concoct

derivative instruments and so-called structured products like the notorious securitized mortgage loans.[20]

An important contributor to the market seizures in 2008 was the absence of effective, coordinated regulation, a problem that worsened over time as two developments took hold:

1. On the one hand, intelligent bankers, lawyers, and accountants developed financial products that shifted risk (generally risk relating to mortgage origination and secondary-mortgage finance as we will see in the pages that follow), and allowed others to speculate in an unfettered manner with respect to that risk.
2. On the other hand, simultaneously, lawmakers and regulators in the United States did not do enough after prior financial crises (e.g., the savings and loan, 1987 market, Long-Term Capital, and Enron crises discussed in additional detail in Chapter 10) to identify and prevent the recurrence of problems that led to the 2008 market crises.

The starting point in describing this two-part cause is the history that led to an ineffective patchwork of regulation and very active users of derivatives using these financial tools in a way that led to widespread losses in the midst of a regulatory void. Although the discussion that follows provides a summary of this history, a more in-depth dissertation is provided in Chapter 8.

Importance of Banks and Banking Regulation

Federal law in the United States that governed the investment activities of those banks was transformed completely in the twentieth century, and that transformation created an environment for the banks to take the kinds of risks—and to incur unprecedented losses—that led to widespread market seizure and government bailouts throughout the world in 2008. Before describing that transformation, it is perhaps helpful to outline the objectives of banks and the regulations that are meant to govern them.

The market participants with the single greatest influence on the financial crises of 2008 were the large investment and commercial banks in New York and other major financial centers throughout the world. This is not surprising; banks provide the liquidity that functions as the lifeblood of the financial system and the broader global economy. The banks carry out government's monetary policy. Banks also serve as financial intermediaries and provide a range of financial services and financial products to provide an environment in which business may thrive.

When banks fail, as they did in the Great Depression in the United States prior to 1933, and again nearly 75 years later, the banking system gets the attention of lawmakers first, and it is that system that is the first to be reformed.

In the first hundred days of the Franklin Delano Roosevelt administration following the Great Depression, a complete revamp of the banking system was necessitated by a perception that the financial arteries of the U.S. economy were effectively severed:

> *The first priority was the banking system. Before anything else could be done, it seemed imperative to clear the financial arteries of the economy. The outgoing President had asked the President-elect in February to join with him in meeting the banking crisis. . . . On Saturday night, a few hours after the inauguration* [*of President Franklin D. Roosevelt*]*, Secretary of the Treasury Woodin agreed to have emergency banking legislation ready for Congress when it convened on Thursday, March 9. . . . With the declaration of a bank holiday, the Administration bought time—eighty hours until Congress reconvened—to work out a plan for reviving the banks.*[21]

The comprehensive federal laws that followed the Great Depression included the Banking Act of 1933 and the Glass-Steagall Act, which addressed the collapse of the commercial banking system in America in the years leading up to 1933.

Glass-Steagall primarily brought about the separation of commercial banking, in which depositors provided the inflow of cash to the banks from investment banking. Proponents of Glass-Steagall urged federal lawmakers in essence to place a wall in between investment bankers and commercial bankers so that the former could not use and leverage the use of bank depositors' wealth.[22] A response to the proliferation of bank failures during the Great Depression, the 1933 law prevented deposit-taking institutions from owning investment banks and limited the ability of banks to operate across state lines.[23]

In the decades which followed the 1930s, the law that American financial-services businesses tried to circumvent for most of the twentieth century was the Glass-Steagall Act. This circumvention did in fact take place until the overturn of the Glass-Steagall Act. Prior to its repeal, bankers and their lawyers created structures and investment products that led depositors to investments that were certainly far more attractive than simple deposit accounts.

Conrad de Aenlle and Julia Werdigier, writing for the *International Herald Tribune* after the fall of Lehman Brothers in late September 2008, reported:

> *The formation of holding companies that owned consumer and investment banks, as well as subsidiaries in multiple states, weakened Glass-Steagall* [*according to Jaime Peters, bank analyst at Morningstar*]. *So did the flourishing in the 1970s of mutual funds and money-market funds that became substitutes for conventional checking and savings accounts . . .* [*t*]*hese developments rendered Glass-Steagall all but moot and the act was repealed in the 1990s. That has led some observers to try to lay the credit crisis at the doorstep of the U.S. Congress, but others see it as an acceptance of the reality that bankers were a step or two ahead of the regulators.*[24]

On November 12, 1999, Congress repealed Glass-Steagall and commercial and investment banks were able to combine, mergers followed, and investment banks were able to leverage the entire assets of commercial-bank deposit accounts and investment-bank assets in the years leading up to the 2008 market crisis.

The Interconnected Nature of the Banking System

If a large bank fails, it is a major problem, as it was when Lehman Brothers filed for bankruptcy. Because large banks were interconnected by short- and long-term financings—traditional and alternative financings—the failure of several banks threatened the entire system. This development was perhaps the greatest cause of the new derivatives reform mandate.

A primary feature of the modern financial system is its interconnectedness. What, in the United States, was once a system of separate and distinct banks in the nineteenth century became an interlocked labyrinth consisting of bank holding companies and affiliates. By 2008, many of the largest banks were simultaneously interconnected with each other and excessively leveraged, a dynamic that threatened the entire financial system. Andrew Ross Sorkin, in his thorough work on the unfolding of the 2008 market crises, wrote that the interconnected labyrinth of bank trades tied the financial system together in one knot:

> *But it was the new ultra-interconnectedness among the nation's financial institutions that posed the greatest risk of all. As a result of the banks owning various slices of* [*securitized, mortgage-backed*

> *bonds*] *every firm was now dependent on the others—and many did not know it. If one fell, it could become a series of falling dominos. . . . The sudden failure or abrupt withdrawal from trading of any of these large U.S. dealers could cause liquidity problems in the markets and could also pose risk to others, including federally insured banks and the financial system as a whole.*[25]

The intertwined nature of the banking system was nowhere more pronounced than in the OTC derivatives market, because banks facing derivative customers in trades would turn around and hedge their trades with other banks, causing the market over time to resemble the labyrinth described in the Introduction to this text and illustrated in Figure I.2.

Not only were the banks interconnected, they were also voracious risk takers. In 2008, banks on Wall Street were massively leveraged with debt-to-capital ratios of 32 to 1.[26] Prior to the Great Depression in the United States, many individuals, banks, and other market participants relied on large amounts of leverage, which led, in part, to a run on banks and the Great Depression. In 2007 to 2008, not only were the banks and their affiliates interconnected, leveraged risk takers, but the traditional banks also sponsored an entirely new breed of financial services firms and entities: the so-called shadow banks.

THE SHADOW BANKING SYSTEM

The shadow banking system deserves its ominous name because players within the system are not actively regulated as banks are regulated, at least not in the United States. This system consisted of a variety of SPEs as well as other entities which performed certain financing functions of traditional banks, but were not regulated as banks.

Entities in the shadow banking system also include real estate investment trusts (REITS), hedge funds, money-market funds, and other entities. An illustration of a REIT acting as a bank—that is, without the regulatory oversight that should include stringent capitalization requirements to reign in risk taking—is provided in the next section. REITS and other quasi-banking entities in this system occupied the position of a bank in many transactions leading up to the 2008 market crises, yet they did not accept deposits as traditional banks do. However, like banks, the entities were instrumental in the funding of investments in real estate and other assets that became illiquid in 2007 to 2008.

There are no geographic bounds to the system of shadow banks—a description of nonbank financial services firms that entered the financial

vernacular around 2007.[27] These institutions emerged and played important roles in financings from 2000 to 2008 in Europe, in the United States, and in other parts of the world, yet the shadow banks are not subject to the vast regulatory regime that governs banks. In the absence of a well-developed body of law to govern shadow banks, these entities became formidable competitors to traditional banks in providing financing for commercial transactions.

The financings of shadow banks included complex derivatives, but also more straightforward forms of financing, such as credit facilities and warehouse and repurchase facilities. The CFTC Chairman Gensler testified before the Financial Crisis Inquiry Commission in May 2010:

> *Nearly eight decades ago, after a series of banking crises led to the Great Depression, the United States put in place broad protections over the financial system. These reforms—deposit insurance, prudential rules to limit risk taking by banks, and improved transparency and investor protection in our securities markets—alongside the Federal Reserve's role as lender of last resort, laid the foundation for a more stable banking industry for several decades. Over time, however, the financial system outgrew those protections. A large parallel financial system emerged outside of the framework of protections established for traditional banks. A great diversity of financial institutions emerged to provide banking services to individuals and companies, and they were allowed to operate without being subject to the same constraints applied to traditional banks. The shift in mortgage lending away from banks, the growth of the relative importance of nonbank financial institutions, the increase in the size of investment banks, and the emergence of a range of specialized financing vehicles are all manifestations of this phenomenon.*[28]

REITs as Banks

The following is an example of how a REIT, an entity which no one would consider a bank, performs banking functions in the origination of a loan, yet the REIT is not regulated as a bank in the United States.

A REIT may enter into a repurchase facility with a large bank, and it can time the release of funds from that bank in such a way as to enable the REIT to act as a bank and fund the origination of a commercial real estate transaction, as illustrated by Figure 1.2.

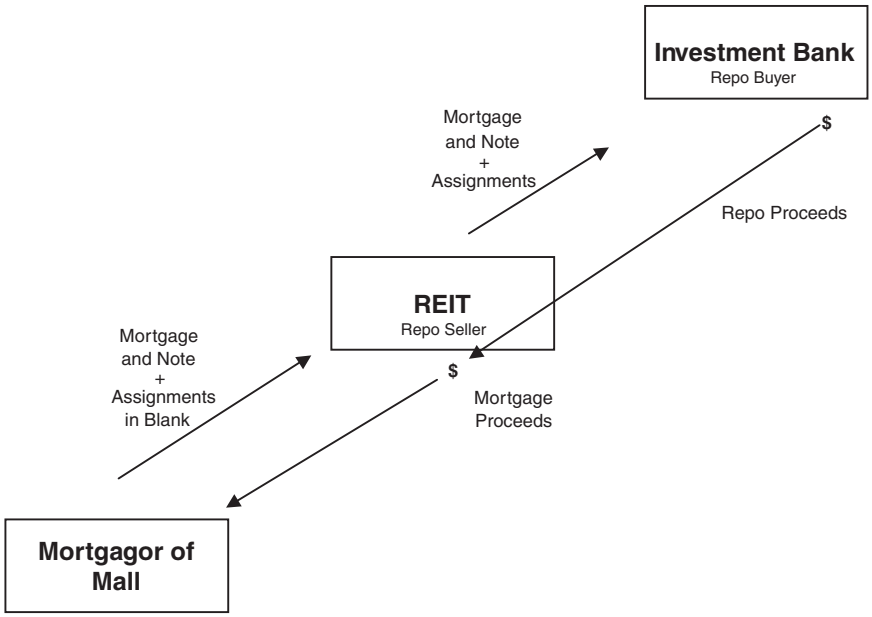

FIGURE 1.2 REITs Performing Banking Functions in a Repurchase Transaction or "Repo"

In Figure 1.2, in the bottom and far left (within a rectangle and called Mortgagor of Mall) figuratively stands a mortgagor as a customer of a bank and borrower which would, in years past, apply to a commercial bank for a commercial real estate loan and mortgage using traditional financing (which continues in existence today, but without the repurchase facility structure that is depicted in Figure 1.2). The mortgagor signs two legal documents, principally: a mortgage, which gives the lending bank legal rights to seize the properly which is subject to the mortgage; and a promissory note, which gives the lender the right to additional recourse to the person signing the mortgage, in order to be made whole if the sale of the property underlying the mortgage is insufficient for the bank to be made whole.

The conference room in which the mortgagor signs the mortgage, promissory notes, and other documents (assignments in blank, as noted in Figure 1.2, which enables the REIT to transfer the legal interests to the ultimate source of mortgage financing, the investment bank at the top, right of Figure 1.2), is not located in a bank, but instead is typically in the offices of the REIT. Usually later in the day, after execution of the mortgage and promissory note and before the wiring cut-off time, the mortgagor receives

the mortgage proceeds in its deposit account, but those proceeds do not originate from the REIT. Those proceeds, as illustrated in Figure 1.2, are in fact coming from a large investment bank.

The investment bank in Figure 1.2 has, well before the funding of mortgage for the mall, entered into a completely separate transaction with the REIT in which the REIT:

- Commits to transfer the asset file from the commercial mortgage for the mall to a custodian or the investment bank and assigns the REIT's rights to the underlying mortgage to the investment bank.
- Promises the investment bank to repurchase the mortgage at some later point (thus, the name repo or repurchase facility).
- Pays the investment bank a fee (the fee may be considered interest for the commercial mortgage proceeds provided by the investment bank to fund the mortgage).
- After a period of time which is negotiated with the investment bank, or alternatively, at any time upon the request of the investment bank (the bank can make this request in some repurchase facilities at any time, in its unfettered discretion), the REIT actually repurchases the mortgage and makes the investment bank whole (and then some; a fee is charged and collected by the investment bank for this transaction), and the asset file with the mortgage documentation is transferred to the REIT, which becomes the owner of the mortgage.

In this way, the repurchase facility described above and depicted in Figure 1.2 often serves as a short-term source of financing for a REIT, which, by means of this facility, in essence performs the role of a bank, at least for a period of time. What the customer (the commercial mortgagor in the foregoing illustration) does not see is that several weeks before the closing of the commercial real estate loan at the office of the REIT, the REIT entered into a repurchase facility, or repo, whereby a large investment bank provides repo proceeds to an account held for the REIT moments before the closing of the commercial real estate loan. Just before the loan is funded, the customer executes a promissory note, mortgage, and other documents within the asset file, and those documents are then assigned by the REIT to the investment bank and held in trust. Figure 1.2 illustrates the complete structure of the repo, which enabled the REIT to function as a bank equivalent without banking supervision or extensive or explicit regulatory jurisdiction.

The asset file holding the mortgage may, prior to repurchase of the asset by the REIT in this case, be assigned by the investment bank to a trust, which, in turn, issues tranches of bonds or other securities in a securitization.

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Securitizations are described in this part as the fourth factor that contributed to the 2008 market crises.[29]

* * *

This is one example of how a REIT acts as a shadow bank, in the context of a commercial real estate loan funded with proceeds from a large repurchase facility that an investment bank provided to the REIT.

Shadow banks, which are highly leveraged, are subject to market risk, liquidity risk, and a host of other risks, and over the years were not subject to capital reserve and other prudent requirements imposed on banks by regulators. More leverage for banks and shadow banks alike meant greater sensitivity to shocks in the market and greater resulting losses. Shadow banks, during market crises, lost access to the sources of financing that were previously provided to them. From 2007 to 2009, we witnessed a rapid deleveraging of the shadow banking industry, especially in the area of real estate, which caused sell-offs of assets and a freefall in asset values.

Banks and Other Financial Services Did Not Have Capital Requirements for Derivatives

Since an early OTC derivatives trade in modern finance, an interest-rate swap between IBM and the World Bank, banks and other derivatives counterparties were not required to comply with stringent, effectively administered capital requirements that would have required these market participants to maintain debt-to-equity ratios in such a way as to prevent risk-taking that led to systemic failure in 2008.

This dynamic developed over a decade, if not longer. Reporters, scholars, and market participants have for many years wrote that bank regulators for at least a decade failed to adequately monitor or even begin to implement effective regulation:

- Banks have not properly disclosed poor lending and investment practices.[30]
- Activities of OTC derivatives market participants suggested the need for greater, if not comprehensive, regulation as early as 1998.[31]
- Leverage and risk concerns relating to derivative use by U.S. banks were discussed at the Basel Committee meeting as early as July 1994, but no effective capital mandate for compliance by those banks was implemented as a part of Basel initiatives.[32]

- Basel Accord's treatment of swaps existed at least 15 years before the 2008 market crises, but it did little to reign in irresponsible risk taking in the OTC derivatives market.[33]

The interconnected, opaque, and shockingly unregulated bank-driven credit derivatives market was a primary cause of the 2008 market crises.

Simultaneous with the inadequate regulation of capital requirements was the development of a market that would be so large that, as of 2008, at least in the United States, the notional value of that market would be 20 times as large as the gross domestic product (GDP) of the United States: the over-the-counter or OTC derivatives market.

DEVELOPMENT OF AN UNREGULATED GLOBAL DERIVATIVES MARKET

The next cause which led to the 2008 market crises was the spectacular growth of the OTC derivatives market worldwide without coordinated regulation. Today the market is the largest market in the world of finance. There is an estimated $300 trillion in OTC derivatives in the OTC market in the United States (in terms of notional value; the difference between notional and actual value is discussed in Part Three), and $615 trillion in notional value worldwide.[34] The first formal OTC trade took place in 1981, as described in greater detail in Chapter 8.

The pace at which the derivatives market developed outstripped the laws that governed the financial marketplace–and not just in the U.S. Commissioner Gary Gensler, Chairman of the U.S. CFTC, opined that other countries' laws also did not regulate derivatives:

> *Over-the-counter derivatives, which started to be transacted in the 1980s, have not been regulated in Europe, Asia, or North America. Until the reforms being debated this year, I am not aware of any major country that had directly regulated these markets over a nearly 30-year period.*[35]

With the enormous size of the derivatives market, why did the largest governments in the world such as the federal government in the United States fail to regulate OTC derivatives? The answer provided by CFTC Commissioner Gensler in 2010 introduces a fundamental position in public policy that needs to be summarized here.

For many years, the most active participants in the derivatives markets were very large banks that were already subject to a complex and well-established regime of law and regulation. Traders that entered positions on behalf of those banks were, along with the firms and banks that employed them, deemed sufficiently sophisticated and, therefore, not in need of careful oversight, according to CFTC Chairman Gary Gensler, who, in answering this question, made this statement, which explains, in part, how the OTC derivatives market was free of government regulation:

> *First, it was claimed that the derivatives market was an institutional marketplace, with "sophisticated" traders who did not need the same types of protections that the broader public needs when investing in the securities or futures markets. This was included in a* [*U.S.*] *President's Working Group report in 1999. European regulators held a similar view that sophisticated traders needed less regulation that* [*sic*] *the broader investing public. For example, the UK's regulatory approach was different for investment services offered to "sophisticated" investment professionals than the approach for investment services offered to other investors.*[36]

Because the institutions that entered into and traded OTC derivatives were already sufficiently regulated under existing regulatory bodies, their derivatives-related activities do not need to be regulated—or so the claim was stated. As a result, regulators did not regulate the derivatives activities of banks or bank affiliates that were active participants in the derivatives markets. In fact, Gensler stated that these market participants were "lightly regulated."[37]

Central clearing of derivatives has been resisted over the years based on the premise that many OTC derivatives cannot be standardized—and, therefore, cleared—like futures contracts. Chairman Gensler of the CFTC recalled testimony by a Wall Street chief executive officer that as much as 75 to 80 percent of the OTC derivatives market is standard enough to be centrally cleared today.[38] This remains to be seen.

After the fall of Lehman Brothers, the industry, by means of its international trade association, the International Swaps and Derivatives Association (ISDA) spearheaded an effort to standardize credit default swaps (CDS). The ISDA published an international protocol and launched an effort to encourage market participants to enter into, and use, Depository Trust & Clearing Corporation (DTCC) as a trade repository if on a Standard North American CDS Contract (SNAC). However, the author's experience is that

the derivatives market has not fully embraced the SNAC CDS, and this experience teaches that the conversion of a customized market with hundreds of trillions of dollars to a centrally cleared market may be more difficult than regulators or even Wall Street executives think. Additional discussion on central clearing reform and the central clearing process are provided in Part Three of this book.

Finally, the United States has not previously regulated its OTC derivatives market because of the concern that U.S. market participants seeking less regulation would take their trades overseas, where countries with less regulation provide attractive, lightly regulated markets for OTC derivatives trading.[39]

In the absence of effective regulation, given the aforementioned factors and developments, the OTC market grew in leaps and bounds from the first interest-rate trade in 1981. By 2008, the global OTC derivatives market was a $615 trillion market in notional value.[40]

The OTC derivatives market was attractive in part because of the transparency that existed in a large, traditional cash market: the secondary bond market, as discussed next.

The TRACE Reporting System and the Allure of Credit Derivatives

The third catalyst or significant factor that led to the 2008 market crises consisted of these two factors:

1. The movement away from a traditional financial instrument, namely, corporate bonds, to OTC derivatives because of the transparency in the bond market resulting from the implementation of the Trade Reporting and Compliance Engine (TRACE).
2. The widespread attraction to credit derivatives.

An important entrant into the OTC market was the former bond trader, who, after the introduction and use of TRACE, sought opportunities to trade in less transparent markets. An integral part of trading successfully is taking advantage of information that is not readily available for any number of reasons.

The interesting aspect of this part of the discussion is that policy makers in derivatives reform have included in that reform the requirement that the current OTC derivatives market become more transparent. The reality is that, as we will see in the case of the introduction of TRACE to

the bond market, once a previously opaque market becomes transparent, many of the market players will search for new avenues to trade without transparency.

The Trade Reporting and Compliance Engine

TRACE is a sophisticated reporting system that enables trade details in the secondary bond market to be readily available to the broader market. The corporate bond experience since the adoption of TRACE suggests that the credit derivatives market spiked after the bond market became more transparent after the introduction of TRACE.

In the decades that preceded the use of TRACE, corporate bonds traded in the secondary market, the old-fashioned way: by telephone.[41] Quotations for bonds in the secondary market were accessible by a call to a market professional, because prices for completed bond transactions were not public. Regulators were of the belief that insider trading took place in the opaque secondary bond market before TRACE.

> *First, in an opaque market, well-informed dealers may be able to extract rents from less well-informed customers (Pagano and Roell, 1996), and in fact dealers may well prefer not to disclosure trades that occur, because they profit from the associated reduction in price competition (Madhavan, 1995). Second, increased transparency can facilitate enforcement of rules against excessive "mark-ups" (additions or subtractions in retail price relative to open market) in securities trading.*[42]

In July 2002, this all changed. SEC Chairman Arthur Levitt wanted a database and reporting system to collect the prices of trades on all registered bond offerings.[43] Once consummated, trade details were reported to the predecessor to the National Association of Securities Dealers (NASD), the Financial Industry Regulatory Authority (FINRA), and a computer server made those trade details available through the Internet.

TRACE quickly became the great equalizer of the secondary bond market; with its introduction, bond market participants gained access to the same information. A byproduct of this development, however, which is summarized next, was to push business into the opaque derivatives market.

> *Consider the choice of a trader trying to accumulate a position: trade in the cash corporate market and broadcast your trades to everyone within a few minutes or execute in the credit derivatives market, where there is no reporting system. (The credit derivatives*

market is innovative in structure, but in many ways it operates in the way that the old-line cash corporate market did before TRACE reporting.)[44]

TRACE had a cascading effect in the industry. First, banks that traded in the secondary bond market made less profit, and individual investors traded more efficiently and at less cost. In writing on the subject of transparency in the corporate bond market after the introduction of TRACE, Hendrick Bessembinder and William Maxwell explain how transparency, at least in the previously opaque corporate bond market, resulted in process-related improvements and changes in trade economics:

A number of articles in the financial and trade press support the general conclusion of the academic studies that trading costs declined with transaction reporting [*through TRACE*]*, particularly for retail traders. A commentator from a fixed income research service stated that "before TRACE, it wouldn't be unheard of for a trader to use the fact that there was no way of verifying the information that he gave about where a bond was trading to his advantage" (as quoted in Bravo, 2003). In contrast, a fixed income trader at an investment company, referring to the post-TRACE environment, was quoted in Vames (2003) as saying, "You don't have to go to three or four different people to find out where something is trading. . . .* [*W*]*hen you have access to (TRACE) information, you have a better idea where things are before you make your first call." A bond trader (as quoted in Laughline, 2005) stated: "increased transparency has clearly helped the small investor and the smaller funds. . . .* [*M*]*any investors now think the real benefit of TRACE lies in knowing that they are not being raked over the coals." A "Lex" (2006) column in the* Financial Times *noted: "*[*B*]*ig dealer banks now make less money on each trade. Few observers will lose much sleep over that."*[45]

Bond salesmen lost trading advantages after TRACE. To illustrate, "[i]nstitutional investors paid $1.26 per $1,000 bond to trade last month, according to a review of 5,086 trades involving 22 of the most-active top-rated issues in the investment-grade Bloomberg-NASD bond index. Four years ago [before the introduction of TRACE] it was $2.80 per bond."[46]

In part due to a more transparent market, some bond salesmen lost their work, but those traders who sought pricing advantages in a more opaque market turned to the OTC derivatives market. Derivatives and equity sales offices took the office space previously occupied by bond salesmen.[47] This flight of business from the secondary bond market to

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the OTC derivatives market occurred over a span of three months, as a former bond salesman explained: "I used to make a good living, and then we were breaking even one month, losing money another," said bond salesman Richard Seifer, 61, whose offices in the old U.S. Express Building at 2 Rector Street are now occupied by companies that trade equities and derivatives.[48]

By the time the participants in the secondary bond market began to migrate to the OTC derivatives market, around 2002 to 2003, financial engineering in the OTC market had nearly completed a full decade of gestation for a new category of derivatives that played a critical role in the 2008 market crises–namely, credit derivatives.

THE RISE OF CREDIT DERIVATIVES AND THE CREDIT DEFAULT SWAP

Financial Times journalist Gillian Tett tells the fascinating story of how several dozen bankers at J.P. Morgan in New York, London, and Tokyo collectively brainstormed at a retreat that seemed more like a fraternity party than a serious think-tank discussion. The product of their brainstorm was a credit derivative that other bankers at the time, or before that time, such as those at Salomon Brothers, developed.[49] Although the elements and processes that combined to make the CDS are described in greater detail in Part Three, a short summary of the evolution of the CDS will help the reader understand its use by AIG and others as a contributor to the 2008 market crises.

The team of J.P. Morgan bankers that Gillian Tett credits with developing credit derivatives, specifically CDS, worked together as an incubator for ideas, led by Bill Demchak, who, at one point, told his colleagues, with the intent to drive innovation, "You will have to make at least half of your revenues each year from a product which did not exist before!"[50] In one of the bankers' brainstorming sessions, the idea of developing an insurance-like derivative based on loans issued by J.P. Morgan developed. The premise, in a nutshell, was that, if derivatives (such as futures) could enable wheat farmers to limit the risk of loss, then derivatives should also be designed to limit losses by a bank from the default of bank customers on bank repayment obligations. In other words, as one trader at J.P. Morgan reportedly said:

> *J.P. Morgan itself had a veritable mountain of loans on its books that were creating regulatory headaches. . . . Would regulators*

> *permit* [*CDS*] *to be sold? If so, what might it mean for the financial world if default risk—the risk most central to the traditional craft of banking—were turned into just another plaything for traders?*[51]

Credit derivatives flourished for many reasons, but a primary one is that the market in which they traded was OTC. The result of the development of the CDS by the J.P. Morgan team and other innovators in the late 1980s and early 1990s was a massive global market in credit derivatives. At its peak, the CDS market was a robust $60 trillion market.[52] The entire credit derivatives market was, by 1996, roughly between $100 to $200 billion, and seven years later, it grew to a $3.5 trillion market in notional value, reflecting the growth of the market from 1997 to 2005.[53]

The unregulated use of credit derivatives such as CDS by AIG and other market participants was a major part of the development of the 2008 market crises. However, it was the combination of the unregulated use of CDS with a completely different financial device, securitization, that spread the contagion worldwide and fed the market crises of 2008.

PRIVATE-LABEL RESIDENTIAL MORTGAGE-BACKED SECURITIZATION

> *Let's be clear: This is an American mess forged by the American genius for newfangled financial instruments in an era where the mantra has been that government is dumb and the markets are smart and risk is nonexistent. The responsibility for undoing the debacle is chiefly American, too.*[54]

Most critics of derivatives have a rather vague notion that derivatives were the sole cause of the market crises that led to recessions in many of the largest markets throughout the world in 2008 to 2009. It is probably more accurate to suggest that some combination of certain credit derivatives and securitization were principal causes of the 2008 market crises. Although the markets in interest rate and currency derivatives comprise the majority of the OTC derivative markets, neither segment caused any crash, or the fall of Lehman Brothers, Bear Stearns, AIG, or other financial services firms. These firms sustained debilitating losses, not because of those swaps, or many of the other categories of derivatives that make up the OTC market, but instead because of their misuse of an otherwise positive, powerful financial

tool called securitization. If used properly, securitization can properly fuel the growth of an important area of our economy such as the credit card or real estate mortgage industries.

Collateralized Debt Obligations

Perhaps the greatest villain in the 2008 market crises was the irresponsible user or users of collateralized debt obligations (CDOs), which are, as with asset-backed securities (ABS) and MBS, elegant and elaborate financial tools that, if used properly, can be a tremendously positive, powerful force to fund assets such as mortgages and manage risk. However, inexplicable to many, the 2008 market crises saw investors losing massive amounts, before the complete seizure of the CDO market.

CDOs are members of the credit derivative family. Depending on the underlying asset, the derivative may be a collateralized bond obligation (CBO)—a term that has, in more recent years, fallen from trade parlance, as many refer to CBOs as CDOs—or a collateralized loan obligation (CLO). In a CBO structure, a trust owns the bonds, or a pool of high risk, below investment-grade fixed-income securities. A CLO structure includes a trust, typically collateralized by a pool of bank loans, which may include senior unsecured loans and subordinate corporate loans. The pool may include loans that may be rated below investment grade.

As with OTC derivatives, the vast majority of CBOs, CLOs, and other CDOs were privately offered and sold. Provided that certain exemptions to U.S. securities laws apply, ABS are not required to be registered under U.S. securities laws. That being said, for many asset classes, registration is standard.

In 2008 market crises resulted from these "structured products," including structured notes, which are derivative debt securities. The value of that derivative is the principal of, or interest on, structured notes, and it is typically determined by reference to changes in the worth of a reference rate, or index. The interest rate or the principal amount payable upon maturity or redemption may be increased or decreased, depending on changes in the applicable reference.

In the 2008 market crises, structured notes appeared to have included a greater degree of market risk, and they suffered losses, compared to other types of debt securities, because the investor bore the risk of the underlying reference obligations or indices.

These financial products were misused in the years leading up to 2008 in that the users were risk-averse, unregulated, and failed to take into account a collapse in housing markets. The disappointing reality is that the creators, sponsors, and traders of these products who acted in irresponsible ways

are the greatest contributors to the financial crises that began in 2006 and culminated in the fall of Lehman Brothers in September 2008. As a result now, all derivatives have become subject to comprehensive financial services regulation worldwide. Although the financial industry contributed in this way, they could not have brought down many pillars in the global financial system without the unwitting help from the regulators.

U.S. POLICY FOSTERING HOME OWNERSHIP AND GSE MISMANAGEMENT

In his opening remarks to a hearing in the U.S. Senate titled "Mortgage Market Turmoil: Causes and Consequences" in March 2007, Senator Christopher Dodd stated:

> *I am going to take a few moments to lay out what I can only call a chronology of neglect: Regulators tell us they first noticed credit standards deteriorating late in 2003. By then, Fitch Ratings had already placed one major subprime lender on "credit watch," citing concerns over their subprime business. In fact, data collected by the Federal Reserve Board clearly indicated that lenders had started to ease their lending standards by early 2004. Despite those warning signals, in February of 2004 the leadership of the Federal Reserve Board seemed to encourage the development and use of adjustable rate mortgages that today are defaulting and going into foreclosure at record rates. So, in sum, by the Spring of 2004, the regulators had started to document the fact that lending standards were easing. At the same time, the Fed was encouraging lenders to develop and market alternative adjustable rate products, just as it was embarking on a long series of hikes in short-term rates. In my view, these actions get the conditions for the perfect storm that is sweeping over millions of home owners today.*[55]

The federal government's policy to foster home ownership spurred in the mortgage industry the use of adjustable mortgages, and securitization spread the securities backed by the adjustable mortgages (and their risks) throughout the world. Over time, many years of securitized mortgages (that fell into default as interest rates rose) were issued in the United States and overseas.

The first link in this chain reaction is a federal policy of fostering home ownership among Americans. The focus of this policy was on the segment of the U.S. population that was economically unable to make the down

payment and monthly mortgage payments that, before the advent of more creative mortgage products, were required to own a home.

Encouraging home ownership is a worthy public undertaking. The federal policy in the United States of encouraging home ownership formally began in 1977, when Congress passed the Community Reinvestment Act (CRA). The CRA affirmed the obligation of federally-insured banks and other depository institutions to meet the credit needs of the communities in which the financial institutions lend.[56] For decades after the Great Depression up to the 1970s, before CRA, many of those communities had failed to lend or actively discriminated against poor, often urban communities.[57]

During the early years of the 2000s in the United States, just as securitization of mortgages was becoming a powerful source of mortgage finance, interest rates were low (following the dot-com crisis and the terrorist attacks on September 11, 2001). The Clinton and Bush Administrations encouraged home ownership and inadvertently fostered a business environment which was ripe for aggressive predatory lending by mortgage originators.

Leading economist Joseph Stiglitz argued that it wasn't the CRA policy of encouraging home ownership itself that was to blame, but private mortgage originators that encouraged subprime borrowers to sign mortgages:

> *The conservative critics believe that government is to blame for doing too much. They criticize the Community Reinvestment Act (CRA) requirements imposed on banks, which required them to lend a certain fraction of their portfolio to underserved minority communities. . . . It is America's fully private financial markets that invented all the bad practices that played a central role in this crisis.*[58]

The criticism of Stiglitz's statement minimizes the government's role and is not supported by a consensus. According to Lawrence Harris, a professor of finance, regulators in Washington are deserving of at least part of the blame for spurring home ownership with the awareness that some of the practices were reckless:

> *Political pressure* [*to increase home ownership*]*—this is where Washington may bear some blame for the present mess* [*according to Lawrence Harris, professor of finance at the University of Southern California*]. *The mortgage leviathans Fannie Mae and Freddie Mac were encouraged to sacrifice safety to keep their great loan machines running at top speed, he said. "Everyone in the administration and Congress wanted money to go into the housing industry," he said. "There was a lot of pressure on them to look the other*

way when receiving undocumented paper that they knew, or should have known, wasn't going to be good. They didn't feel they were all that exposed to risk."[59]

Government-Sponsored Enterprise (GSE)

Viewing government policy to encourage home ownership by those who could afford to pay for mortgages as the sole cause of the 2008 market crises is a mistake. GSEs are corporate entities that enjoy the backing of the federal government. These entities are guarantors of mortgages within securitized pools (of mortgages). However, over time, GSEs became massively overleveraged and were mismanaged. Later known as mortgage leviathans, Fannie Mae and Freddie Mac were each conduits that fueled the subprime crisis. The purpose of these legal entities is to stabilize mortgage lending. In many respects, the GSEs destabilized the system.

Since their creation, the GSEs were part of the problem in many respects, including those identified in the *Crisis Commission Report*. As residential mortgages were originated, the implicit government backing that accompanied a mortgage enabled mortgage originators to underwrite loans that perhaps they would not have underwritten without GSE backing.

The sheer volume of guaranteed and securitized pools of mortgages created a too-big-to-fail mentality with respect to the GSEs, in large part because of these factors that were identified by the Hon. Bill Thomas and his dissenting colleagues in the *Crisis Commission Report:* GSEs were large financial institutions whose failure in and of themselves risked contagion. Yet, they could not go bankrupt because financial institutions throughout the world held GSE debt, and markets depended on the well being of the servicing of that debt. The ongoing mortgage origination system in the United States depended on the existence of the GSEs.[60] Accordingly, the GSEs and a broader federal policy fostering home ownership served as the backbone of the real-estate–based credit crises which emanated in America.

DERIVATIVES AND STRUCTURED PRODUCTS ACCOUNTING PRACTICES

An accounting system that originated in the Middle Ages can't keep track of things like derivative instruments.[61]

I would like to argue that important aspects of crisis are rooted in the failure of accounting theory, standards, regulators, and practice, and we shall have to act to help fix the problems.[62]

One of the many lessons taught by the Enron crisis, which did not get adequate attention by policy makers prior to the crises of 2007 to 2008, was the use of aggressive accounting practices to keep derivatives and structured products off balance sheets. Although this aspect of the Enron crisis, as discussed earlier in this chapter, may have caught the attention of accounting and public policy officials, it did not keep their and other policy makers' attention focused long enough, because even larger accounting problems permitted excessive leverage and resulted in losses leading to the 2008 market crises. As a result:

- *Banks were, and still possibly are, overleveraged:* As this book went to press, U.S. Generally Accepted Accounting Practices (GAAP) did do not recognize gross derivatives exposure on balance sheets. Daniel Gros argues that part of the role that accounting standards and practices play is to accurately and completely disclose the financial well being of enterprises. However, whereas European accounting principles (International Financial Reporting Standards or IRFS) require the disclosure of "positive market values from derivatives," GAAP calls for "derivatives post netting."[63] Gros illustrates the issue by looking at Deutsche Bank, which reports its financials using both GAAP and IRFS. According to Gros, the financials of Deutsche Bank demonstrate that the bank is twice as leveraged under IRFS reporting than under GAAP. The conclusion, according to Gros, is that U.S. banks using GAAP may be under reporting the extent of their derivatives exposure and leverage, even after the 2008 market crises.[64] According to Gros: "properly measured, leverage is still at the same level as the peak of the bubble in late 2007." The conditions for a new systemic crisis are thus still in place according to Gros.[65]
- Accounting practices permitted sponsors of securitization trusts to keep those trusts off the sponsors' balance sheets prior to the 2008 market crises. Bank regulators likely did not recognize how securitization enabled the sponsors to shift liability off of the balance sheets.

Although a proper treatment of the manner in which accounting practices contributed to risk-taking and the broader market failures in 2008 is beyond the scope of this text, any analysis identifying contributors to the market crises which omits mention of the practical application of accounting standards is incomplete.

* * *

This chapter was designed to provide a summary of what the author believes are the leading causes to the crises that led to derivatives reform. Clearly,

there was no sole cause for the crisis, and critics of derivatives who point their fingers at derivatives as a leading (or the only) cause of the economic crises are disregarding the adverse effects of government policy, government-sponsored enterprises, loopholes left by laws past after former crises, and several other factors in the crises that are discussed in the preceding pages.

Although derivatives did play a role in the 2008 market crises, it was not a leading role. The risk management function of credit default swaps had the effect of luring executives in failed financial service firms into a false sense of security. Did these executives realize and act rationally after reaching that conclusion? Absolutely not.

In fact, some commentators point to a human element in the financial crisis. Instead of realizing that their balance sheets were weighed down excessively with assets that were of little value, instead of entering into damage control, executives of major firms that failed in 2008 undertook even greater risks, according to the president of Atlantic Investors, a $3.5 billion investment-management company and hedge fund:

> *I've been talking about* [*the market crises of 2008*] *for years. . . . But I started to notice it in the fall* [*of 2008*]. *Because if you think about it, if you have all this nuclear waste on your balance sheet, what are you supposed to do? You're supposed to cut your dividends, you're supposed to raise equity, and you're supposed to shrink your balance sheet. And they* [*Lehman Brothers and Bear Stearns & Co.*] *did just the opposite. They took on more leverage. Lehman went from twenty-five to thirty-five times leveraged in one year. And then they announce a big stock buyback at $65 a share and they sell stock at $38 a share. I mean, they don't know what they're doing. And yet they get rewarded for doing that. It makes me sick.*[66]

This analysis suggests that human error in the form of irresponsible risk taking was a primary cause in the crises, as opposed to any financial product such as a derivative. It is unclear that the massive reform effort which resulted in 2010 and thereafter gets to the heart of the problem: excessive risk taking. Therefore, it is also not clear that the reform which this book details will in fact prevent the next market crisis. Certainly an uncoordinated international reform effort will change almost nothing.

With the timeline of the crisis and an understanding of how it unfolded, as provided in the next chapter of this book, at least we will be in a better position to identify and prevent the exacerbation of the next financial crisis before it is too late.

NOTES

1. *International Financing Review*. 2011. "Clearing Houses Would Not Have Prevented Financial Crisis." May 17.
2. Joseph E. Stiglitz, *Freefall: America, Free Markets and the Sinking of the World Economy* (New York: Norton, 2010), xxv.
3. Sher Verick and Iyanatul Islam, *The Great Recession of 2008–2009: Causes, Consequences and Policy Responses* (Bonn: Institute for the Study of Labor, Deutsche Post Foundation, May 2010), 3–4.
4. Warren E. Buffett, Chairman of the Board, Berkshire Hathaway, Annual Report (Feb. 21, 2003).
5. Pub. L. 107-204.
6. *The Financial Crisis Inquiry Report: Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States* (New York: BBS Public Affairs, 2011) (hereinafter *Crisis Commission Report*), 443.
7. Ibid., xxiv–xxv.
8. Ibid., 45.
9. Ibid.
10. Ibid., 46.
11. Ibid., 426.
12. George White, "William Seidman on Culprits of the Financial Crisis," TheDeal .com, November 10, 2008. www.thedeal.com/dealscape/2008/11/william_seidman_on_culprits_of.php.
13. The Sarbanes-Oxley Act of 2002 (Pub. L. 107-204), 116 Stat. 745.
14. "Report of Investigation by the Special Investigative Committee of the Board of Directors of Enron Corp.," February 1, 2002 (Powers Report), 5.
15. Ibid., 5.
16. Frank Partnoy, "Enron and the Use of Derivatives," (Testimony before the Senate Committee on Government Affairs, March 2002), 2, 20.
17. Ibid., 19.
18. Ibid.
19. Joseph Stiglitz, "The Anatomy of a Murder: Who Killed America's Economy?" *Critical Review* 21, no. 2–3 (2009).
20. Conrad de Aenlle and Julia Werdigier, "Regulation 101: First, Bend the Rules," *International Herald Tribune*, September 20–21, 2008.
21. Arthur M. Schlesinger, Jr., *The Coming of the New Deal* (Pennsauken, NJ: Windmill Press, 1960), 3–4.
22. De Aenlle and Werdigier, "Regulation 101."
23. Ibid.
24. Ibid.
25. Andrew Ross Sorkin, *Too Big To Fail* (New York: Viking, 2009), 5.
26. Ibid., 4.
27. Bill Gross, "Beware Our Shadow Banking System," *Money,* CNN.com, November 28, 2007.
28. Gary Gensler: "Current Legislation 'Strong, Comprehensive and Historic,'" FuturesMag.Com (July 1, 2010), www.futuresmag.com/News/2010/7/Pages/

Gensler-Current-legislation-strong-comprehensive-and-historic.aspx (Accessed on January 6, 2011).

29. See "Private-Label Residential Mortgage-Backed Securitization" on page 45 in this chapter.
30. George Graham, "Warning on Poor Lending Standards," *Financial Times,* October 15, 1998, 8.
31. David Barboza and Jeff Gerth, "On Regulating Derivatives," *New York Times,* December 15, 1998, C1.
32. Barbara C. Matthews, "Capital Adequacy, Netting and Derivatives," *Standard Journal of Law, Business, and Finance* 167 (1995): 169–170.
33. See Bruce S. Darringer, "Swaps, Banks and Capital: An Analysis of Swap Risks and a Critical Assessment of the Basel Accord's Treatment of Swaps," *University of Pennsylvania International Business Law* 259 (1995): 16.
34. Gensler, "Current Legislation."
35. Ibid.
36. Ibid.
37. Ibid.
38. Ibid.
39. Ibid.
40. "OTC Derivatives Market Activity in the Second Half of 2009," Bank for International Settlements (May 11, 2010). www.bis.org/press/p100511.htm.
41. Hendrik Bessembinder and William Maxwell, "Transparency and the Corporate Bond Market," *Journal of Economic Perspectives* (Spring, 2008): 3. Available in abstract, http://ssrn.com/abstract=1082459.
42. Ibid.
43. Mark Pittman and Caroline Salas, "Bond Traders Lose $1 Million Incomes as Transparency Cuts Jobs," *BondsOnline,* October 24, 2006. www.bondsonline.com/News_Releases/news10240601.php.
44. Dave Boberski, *CDS Delivery Option* (New York: Bloomberg, 2009), xv.
45. Bessembinder and Maxwell, "Transparency and the Corporate Bond Market."
46. Pittman and Salas, "Bond Traders Lose $1 Million."
47. Ibid.
48. Ibid.
49. Gillian Tett, *Fools Gold* (New York: Free Press, 2009), 3.
50. Ibid., 7–8.
51. Ibid., 21.
52. Gensler: "Current Legislation."
53. George Chacko et al., *Credit Derivatives: A Primer on Credit Risk, Modeling and Instruments* (Philadelphia, PA: Wharton School Publishing, 2006), 53.
54. Roger Cohen, "The Fleecing of America," *International Herald Tribune*, September 22, 2008.
55. U.S. Senate Committee on Banking, Housing, and Urban Affairs, March 22, 2007, referenced in Michael Lewis, *Panic: The Story of Modern Financial Insanity* (New York: Norton, 2009), 309.
56. Speech by Chairman Ben S. Bernanke, Community Affairs Research Conference, Washington, DC, March 30, 2007.

57. Ibid.
58. Joseph Stiglitz, "The Anatomy of a Murder."
59. De Aenlle and Werdigier, "Regulation 101."
60. *Crisis Commission Report*, 425.
61. Daniel Gros, "Are We Primed for Another Crisis?" http://wallstreetpit.com/15236-are-we-primed-for-another-crisis.
62. Ibid.
63. De Aenlle and Werdigier, "Regulation 101."
64. Shyam Sunder, Yale School of Management, Accounting Research Symposium, Hangzhou, China Slide Presentation, December 16–17, 2009.
65. Gros, "Are We Primed for Another Crisis?"
66. William D. Cohan, *House of Cards: A Tale of Hubris and Wretched Excess on Wall Street* (New York: Doubleday, 2009), 3.