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THE MADNESS

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The collateralized debt obligation machine could have sputtered to a natural end by the spring of 2006. Housing prices peaked, and AIG started to slow down its business of insuring subprime-mortgage CDOs. But it turned out that Wall Street didn’t need its golden goose any more. Securities firms were starting to take on a significant share of the risks from their own deals, without AIG as the ultimate bearer of the risk of losses on super-senior CDO tranches. The machine kept humming throughout 2006 and into 2007. “That just seemed kind of odd, given everything we had seen and what we had concluded,” Gary Gorton, a Yale finance professor who had designed AIG’s model for analyzing its CDO positions, told the FCIC.¹

The CDO machine had become self-fueling. Senior executives—particularly at three of the leading promoters of CDOs, Citigroup, Merrill Lynch, and UBS—apparently did not accept or perhaps even understand the risks inherent in the products they were creating. More and more, the senior tranches were retained by the arranging securities firms, the mezzanine tranches were bought by other CDOs, and the equity tranches were bought by hedge funds that were often engaged in complex trading strategies: they made money when the CDOs performed, but could also make money if the market crashed. These factors helped keep the mortgage market going long after house prices had begun to fall and created massive exposures on the books of large financial institutions—exposures that would ultimately bring many of them to the brink of failure.

The subprime mortgage securitization pioneer Lewis Ranieri called the willing suspension of prudent standards “the madness.” He told the FCIC, “You had the

breakdown of the standards, . . . because you break down the checks and balances that normally would have stopped them.”²

Synthetic CDOs boomed. They provided easier opportunities for bullish and bearish investors to bet for and against the housing boom and the securities that depended on it. Synthetic CDOs also made it easier for investment banks and CDO managers to create CDOs more quickly. But synthetic CDO issuers and managers had two sets of customers, each with different interests. And managers sometimes had help from customers in selecting the collateral—including those who were betting against the collateral, as a high-profile case launched by the Securities and Exchange Commission against Goldman Sachs would eventually illustrate.³

Regulators reacted weakly. As early as 2005, supervisors recognized that CDOs and credit default swaps (CDS) could actually concentrate rather than diversify risk, but they concluded that Wall Street knew what it was doing. Supervisors issued guidance in late 2006 warning banks of the risks of complex structured finance transactions—but excluded mortgage-backed securities and CDOs, because they saw the risks of those products as relatively straightforward and well understood.⁴

Disaster was fast approaching.

CDO MANAGERS: “WE ARE NOT A RENT-A-MANAGER”

During the “madness,” when everyone wanted a piece of the action, CDO managers faced growing competitive pressures. Managers’ compensation declined, as demand for mortgage-backed securities drove up prices, squeezing the profit they made on CDOs. At the same time, new CDO managers were entering the arena. Wing Chau, a CDO manager who frequently worked with Merrill Lynch, said the fees fell by half for mezzanine CDOs over time.⁵ And overall compensation could be maintained by creating and managing more new product.

More than had been the case three or four years earlier, in picking the collateral the managers were influenced by the underwriters—the securities firms that created and marketed the deals. An FCIC survey of 40 CDO managers confirmed this point.⁶ Sometimes managers were given a portfolio constructed by the securities firm; the managers would then choose the mortgage assets from that portfolio. The equity investors—who often initiated the deal in the first place—also influenced the selection of assets in many instances. Still, some managers said that they acted independently. “We are not a rent-a-manager, we actually select our collateral,” said Lloyd Fass, the general counsel at Vertical Capital.⁷ As we will see, securities firms often had particular CDO managers with whom they preferred to work. Merrill, the market leader, had a constellation of managers; CDOs underwritten by Merrill frequently bought tranches of other Merrill CDOs.

According to market participants, CDOs stimulated greater demand for mortgage-backed securities, particularly those with high yields, and the greater demand in turn affected the standards for originating mortgages underlying those securities.⁸ As standards fell, at least one firm opted out: PIMCO, one of the largest investment

funds in the country, whose CDO management unit was one of the nation's largest in 2004. Early in 2005, it announced that it would not manage any new deals, in part because of the deterioration in the credit quality of mortgage-backed securities. "There is an awful lot of moral hazard in the sector," Scott Simon, a managing director at PIMCO, told the audience at an industry conference in 2005. "You either take the high road or you don't—we're not going to hurt accounts or damage our reputation for fees." Simon said the rating agencies' methodologies were not sufficiently stringent, particularly because they were being applied to new types of subprime and Alt-A loans with little or no historical performance data.⁹ Not everyone agreed with this viewpoint. "Managers who are sticking in this business are doing it right," Armand Pastine, the chief operating officer at Maxim Group, responded at that same conference. "To suggest that CDO managers would pull out of an economically viable deal for moral reasons—that's a cop-out."¹⁰ As was typical for the industry during the crisis, two of Maxim's eight mortgage-backed CDOs, Maxim High Grade CDO I and Maxim High Grade CDO II, would default on interest payments to investors—including investors holding bonds that had originally been rated triple-A—and the other six would be downgraded to junk status, including all of those originally rated triple-A.¹¹

Another development also changed the CDOs: in 2005 and 2006, CDO managers were less likely to put their own money into their deals. Early in the decade, investors had taken the managers' investment in the equity tranche of their own CDOs to be an assurance of quality, believing that if the managers were sharing the risk of loss, they would have an incentive to pick collateral wisely. But this fail-safe lost force as the amount of managers' investment per transaction declined over time. ACA Management, a unit of the financial guarantor ACA Capital, provides a good illustration of this trend. ACA held 100% of the equity in the CDOs it originated in 2002 and 2003, 52% and 61% of two deals it originated in 2004, between 10% and 25% of deals in 2005, and between 0% and 11% of deals in 2006.¹²

And synthetic CDOs, as we will see, had no fail-safe at all with regard to the managers' incentives. By the very nature of the credit default swaps bundled into these synthetics, customers on the short side of the deal were betting that the assets would fail.

CREDIT DEFAULT SWAPS: "DUMB QUESTION"

In June 2005, derivatives dealers introduced the "pay-as-you-go" credit default swap, a complex instrument that mimicked the timing of the cash flows of real mortgage-backed securities.¹³ Because of this feature, the synthetic CDOs into which these new swaps were bundled were much easier to issue and sell.

The pay-as-you-go swap also enabled a second major development, introduced in January 2006: the first index based on the prices of credit default swaps on mortgage-backed securities. Known as the ABX.HE, it was really a series of indices, meant to act as a sort of Dow Jones Industrial Average for the nonprime mortgage market, and it became a popular way to bet on the performance of the market. Every six months, a

consortium of securities firms would select 20 credit default swaps on mortgage-backed securities in each of five ratings-based tranches: AAA, AA, A, BBB, and BBB-. Investors who believed that the bonds in any given category would fall behind in their payments could buy protection through credit default swaps. As demand for protection rose, the index would fall. The index was therefore a barometer recording the confidence of the market.

Synthetic CDOs proliferated, in part because it was much quicker and easier for managers to assemble a synthetic portfolio out of pay-as-you-go credit default swaps than to assemble a regular cash CDO out of mortgage-backed securities. "The beauty in a way of the synthetic deals is you can look at the entire universe, you don't have to go and buy the cash bonds," said Laura Schwartz of ACA Capital.¹⁴ There were also no warehousing costs or associated risks. And they tended to offer the potential for higher returns on the equity tranches: one analyst estimated that the equity tranche on a synthetic CDO could typically yield about 21%, while the equity tranche of a typical cash CDO could pay 13%.¹⁵

An important driver in the growth of synthetic CDOs was the demand for credit default swaps on mortgage-backed securities. Greg Lippmann, a Deutsche Bank mortgage trader, told the FCIC that he often brokered these deals, matching the "shorts" with the "longs" and minimizing any risk for his own bank. Lippmann said that between 2006 and 2007 he brokered deals for at least 50 and maybe as many as 100 hedge funds that wanted to short the mezzanine tranches of mortgage-backed securities. Meanwhile, on the long side, "Most of our CDS purchases were from UBS, Merrill, and Citibank, because they were the most aggressive underwriters of [synthetic] CDOs."¹⁶ In many cases, they were buying those positions from Lippmann to put them into synthetic CDOs; as it would turn out, the banks would retain much of the risk of those synthetic CDOs by keeping the super-senior and triple-A tranches, selling below-triple-A tranches largely to other CDOs, and selling equity tranches to hedge funds.

Issuance of synthetic CDOs jumped from \$15 billion in 2005 to \$61 billion just one year later. (We include all CDOs with 50% or more synthetic collateral; again, unless otherwise noted, our data refers to CDOs that include mortgage-backed securities.) Even CDOs that were labeled as "cash CDOs" increasingly held some credit derivatives. A total of \$225 billion in CDOs were issued in 2006, including those labeled as cash, "hybrid," or synthetic; the FCIC estimates that 27% of the collateral was derivatives, compared with 9% in 2005 and 7% in 2004.¹⁷

The advent of synthetic CDOs changed the incentives of CDO managers and hedge fund investors. Once short investors were involved, the CDO had two types of investors with opposing interests: those who would benefit if the assets performed, and those who would benefit if the mortgage borrowers stopped making payments and the assets failed to perform.

Even the incentives of long investors became conflicted. Synthetic CDOs enabled sophisticated investors to place bets against the housing market or pursue more complex trading strategies. Investors, usually hedge funds, often used credit default swaps to take offsetting positions in different tranches of the same CDO security; that way,

they could make some money as long as the CDOs performed, but they stood to make more money if the entire market crashed. An FCIC survey of more than 170 hedge funds encompassing over \$1.1 trillion in assets as of early 2010 found this to be a common strategy among medium-size hedge funds: of all the CDOs issued in the second half of 2006, more than half of the equity tranches were purchased by hedge funds that also shorted other tranches.¹⁸ The same approach was being used in the mortgage-backed securities market as well. The FCIC's survey found that by June 2007, the largest hedge funds held \$25 billion in equity and other lower-rated tranches of mortgage-backed securities. These were more than offset by \$45 billion in short positions.¹⁹

These types of trades changed the structured finance market. Investors in the equity and most junior tranches of CDOs and mortgage-backed securities traditionally had the greatest incentive to monitor the credit risk of an underlying portfolio. With the advent of credit default swaps, it was no longer clear who—if anyone—had that incentive.

For one example, consider Merrill Lynch's \$1.5 billion Norma CDO, issued in 2007. The equity investor, Magnetar Capital, a hedge fund, was executing a common strategy known as the correlation trade—it bought the equity tranche while shorting other tranches in Norma and other CDOs. According to court documents, Magnetar was also involved in selecting assets for Norma.²⁰ Magnetar received \$4.5 million related to this transaction and NIR Capital Management, the CDO manager, was paid a fee of \$75,000 plus additional fees.²¹ Magnetar's counsel told the FCIC that the \$4.5 million was a discount in the form of a rebate on the price of the equity tranche and other long positions purchased by Magnetar and not a payment received in return for good or services.²² Court documents indicate that Magnetar was involved in selecting collateral, and that NIR abdicated its asset selection duties to Magnetar with Merrill's knowledge. In addition, they show that when one Merrill employee learned that Magnetar had executed approximately \$600 million in trades for Norma without NIR's apparent involvement or knowledge, she emailed colleagues, "Dumb question. Is Magnetar allowed to trade for NIR?"²³ Merrill failed to disclose that Magnetar was paid \$4.5 million or that Magnetar was selecting collateral when it also had a short position that would benefit from losses.²⁴

The counsel for Merrill's new owner, Bank of America, explained to the FCIC that it was a common industry practice for "the equity investor in a CDO, which had the riskiest investment, to have input during the collateral selection process[;] . . . however, the collateral manager made the ultimate decisions regarding portfolio composition."²⁵ The letter did not specifically mention the Norma CDO. Bank of America failed to produce documents related to this issue requested by the FCIC.

Federal regulators have identified abuses that involved short investors influencing the choice of the instruments inside synthetic CDOs. In April 2010, the SEC charged Goldman Sachs with fraud for telling investors that an independent CDO manager, ACA Management, had picked the underlying assets in a CDO when in fact a short investor, the Paulson & Co. hedge fund, had played a "significant role" in the selection. The SEC alleged that those misrepresentations were in Goldman's marketing materials for Abacus 2007-AC1, one of Goldman's 24 Abacus deals.²⁶

Ira Wagner, the head of Bear Stearns's CDO Group in 2007, told the FCIC that he rejected the deal when approached by Paulson representatives. When asked about Goldman's contention that Paulson's picking the collateral was immaterial because the collateral was disclosed and because Paulson was not well-known at that time, Wagner called the argument "ridiculous." He said that the structure encouraged Paulson to pick the worst assets. While acknowledging the point that every synthetic deal necessarily had long and short investors, Wagner saw having the short investors select the referenced collateral as a serious conflict and for that reason declined to participate.²⁷

ACA executives told the FCIC they were not initially aware that the short investor was involved in choosing the collateral. CEO Alan Roseman said that he first heard of Paulson's role when he reviewed the SEC's complaint.²⁸ Laura Schwartz, who was responsible for the deal at ACA, said she believed that Paulson's firm was the investor taking the equity tranche and would therefore have an interest in the deal performing well. She said she would not have been surprised that Paulson would also have had a short position, because the correlation trade was common in the market, but added, "To be honest, [at that time,] until the SEC testimony I did not even know that Paulson was only short."²⁹ Paulson told the FCIC that any synthetic CDO would have to invest in "a pool that both a buyer and seller of protection could agree on." He didn't understand the objections: "Every [synthetic] CDO has a buyer and seller of protection. So for anyone to say that they didn't want to structure a CDO because someone was buying protection in that CDO, then you wouldn't do any CDOs."³⁰

In July 2010, Goldman Sachs settled the case, paying a record \$550 million fine. Goldman "acknowledge[d] that the marketing materials for the ABACUS 2007-AC1 transaction contained incomplete information. In particular, it was a mistake for the Goldman marketing materials to state that the reference portfolio was 'selected by' ACA Management LLC without disclosing the role of Paulson & Co. Inc. in the portfolio selection process and that Paulson's economic interests were adverse to CDO investors."³¹

The new derivatives provided a golden opportunity for bearish investors to bet against the housing boom. Home prices in the hottest markets in California and Florida had blasted into the stratosphere; it was hard for skeptics to believe that their upward trajectory could continue. And if it did not, the landing would not be a soft one. Some spoke out publicly. Others bet the bubble would burst. Betting against CDOs was also, in some cases, a bet against the rating agencies and their models. Jamie Mai and Ben Hockett, principals at the small investment firm Cornwall Capital, told the FCIC that they had warned the SEC in 2007 that the agencies were dangerously overoptimistic in their assessment of mortgage-backed CDOs. Mai and Hockett saw the rating agencies as "the root of the mess," because their ratings removed the need for buyers to study prices and perform due diligence, even as "there was a massive amount of gaming going on."³²

Shorting CDOs was "pretty attractive" because the rating agencies had given too much credit for diversification, Sihan Shu of Paulson & Co. told the FCIC. Paulson established a fund in June 2006 that initially focused only on shorting BBB-rated tranches. By the end of 2007, Paulson & Co.'s Credit Opportunities fund, set up less

than a year earlier to bet exclusively against the subprime housing market, was up 590%. “Each MBS tranche typically would be 30% mortgages in California, 10% in Florida, 10% in New York, and when you aggregate 100 MBS positions you still have the same geographic diversification. To us, there was not much diversification in CDOs.” Shu’s research convinced him that if home prices were to stop appreciating, BBB-rated mortgage-backed securities would be at risk for downgrades. Should prices drop 5%, CDO losses would increase 20-fold.³³

And if a relatively small number of the underlying loans were to go into foreclosure, the losses would render virtually all of the riskier BBB-rated tranches worthless. “The whole system worked fine as long as everyone could refinance,” Steve Eisman, the founder of a fund within FrontPoint Partners, told the FCIC. The minute refinancing stopped, “losses would explode. . . . By 2006, about half [the mortgages sold] were no-doc or low-doc. You were at max underwriting weakness at max housing prices. And so the system imploded. Everyone was so levered there was no ability to take any pain.”³⁴ On October 6, 2006, James Grant wrote in his newsletter about the “mysterious alchemical processes” in which “Wall Street transforms BBB-minus-rated mortgages into AAA-rated tranches of mortgage securities” by creating CDOs. He estimated that even the triple-A tranches of CDOs would experience some losses if national home prices were to fall just 4% or less within two years; and if prices were to fall 10%, investors of tranches rated AA- or below would be completely wiped out.³⁵

In 2005, Eisman and others were already looking for the best way to bet on this disaster by shorting all these shaky mortgage-related securities. Buying credit default swaps was efficient. Eisman realized that he could pick what he considered the most vulnerable tranches of the mortgage-backed bonds and bet millions of dollars against them, relatively cheaply and with considerable leverage. And that’s what he did.

By the end of 2007, Eisman had put millions of dollars into short positions on credit default swaps. It was, he was sure, just a matter of time. “Everyone really did believe that things were going to be okay,” Eisman said. “[I] thought they were certifiable lunatics.”³⁶

Michael Burry, another short who became well-known after the crisis hit, was a doctor-turned-investor whose hedge fund, Scion Capital, in Northern California’s Silicon Valley, bet big against mortgage-backed securities—reflecting a change of heart, because he had invested in homebuilder stocks in 2002. But the closer he looked, the more he wondered about the financing that supported this booming market. Burry decided that some of the newfangled adjustable rate mortgages were “the most toxic mortgages” created. He told the FCIC, “I watched those with interest as they migrated down the credit spectrum to the subprime market. As [home] prices had increased on the back of virtually no accompanying rise in wages and incomes, I came to the judgment that in two years there will be a final judgment on housing when those two-year [adjustable rate mortgages] seek refinancing.”³⁷ By the middle of 2005, Burry had bought credit default swaps on billions of dollars of mortgage-backed securities and the bonds of financial companies in the housing market, including Fannie Mae, Freddie Mac, and AIG.

Eisman, Cornwall, Paulson, and Burry were not alone in shorting the housing mar-

ket. In fact, on one side of tens of billions of dollars worth of synthetic CDOs were investors taking short positions. The purchasers of credit default swaps illustrate the impact of derivatives in introducing new risks and leverage into the system. Although these investors profited spectacularly from the housing crisis, they never made a single subprime loan or bought an actual mortgage. In other words, they were not purchasing insurance against anything they owned. Instead, they merely made side bets on the risks undertaken by others. Paulson told the FCIC that his research indicated that if home prices remained flat, losses would wipe out the BBB-rated tranches; meanwhile, at the time he could purchase default swap protection on them very cheaply.³⁸

On the other side of the zero-sum game were often the major U.S. financial institutions that would eventually be battered. Burry acknowledged to the FCIC, "There is an argument to be made that you shouldn't allow what I did." But the problem, he said, was not the short positions he was taking; it was the risks that others were accepting. "When I did the shorts, the whole time I was putting on the positions . . . there were people on the other side that were just eating them up. I think it's a catastrophe and I think it was preventable."³⁹

Credit default swaps greased the CDO machine in several ways. First, they allowed CDO managers to create synthetic and hybrid CDOs more quickly than they could create cash CDOs. Second, they enabled investors in the CDOs (including the originating banks, such as Citigroup and Merrill) to transfer the risk of default to the issuer of the credit default swap (such as AIG and other insurance companies). Third, they made correlation trading possible. As the FCIC survey revealed, most hedge fund purchases of equity and other junior tranches of mortgage-backed securities and CDOs were done as part of complex trading strategies.⁴⁰ As a result, credit default swaps were critical to facilitate demand from hedge funds for the equity or other junior tranches of mortgage-backed securities and CDOs. Finally, they allowed speculators to make bets for or against the housing market without putting up much cash.

On the other hand, it can be argued that credit default swaps helped end the housing and mortgage-backed securities bubble. Because CDO arrangers could more easily buy mortgage exposure for their CDOs through credit default swaps than through actual mortgage-backed securities, demand for credit default swaps may in fact have reduced the need to originate high-yield mortgages. In addition, some market participants have contended that without the ability to short the housing market via credit default swaps, the bubble would have lasted longer. As we will see, the declines in the ABX index in late 2006 would be one of the first harbingers of market turmoil. "Once [pessimists] can, in effect, sell short via the CDS, prices must reflect their views and not just the views of the leveraged optimists," John Geanakoplos, a Yale economics professor and a partner in the hedge fund Ellington Capital Management, which both invested in and managed CDOs, told the FCIC.⁴¹

CITIGROUP: "I DO NOT BELIEVE WE WERE POWERLESS"

While the hedge funds were betting against the housing market in 2005 and 2006, Citigroup's CDO desk was pushing more money to the center of the table.

But after writing \$25 billion in liquidity puts—protecting investors who bought commercial paper issued by Citigroup’s CDOs—the bank’s treasury department had put a stop to the practice. To keep doing deals, the CDO desk had to find another market for the super-senior tranches of the CDOs it was underwriting—or it had to find a way to get the company to support the CDO production line. The CDO desk accumulated another \$18 billion in super-senior exposures, most between early 2006 and August 2007, which it otherwise would have been able to sell into the market only for a loss.⁴² It was also increasingly financing securities that it was holding in its CDO warehouse—that is, securities that were waiting to be put into new CDOs.

Historically, owning securities was not what securities firms did. The adage “We are in the moving business, not the storage business” suggests that they were structuring and selling securities, not buying or retaining them.

However, as the biggest commercial banks and investment banks competed in the securities business in the late 1990s and on into the new century, they often touted the “balance sheet” that they could make available to support the sale of new securities. In this regard, Citigroup broke new ground in the CDO market. Citigroup retained significant exposure to potential losses on its CDO business, particularly within Citibank, the \$1 trillion commercial bank whose deposits were insured by the FDIC. While its competitors did the same, few did so as aggressively or, ultimately, with such losses.

In 2006, Citigroup retained the super-senior and triple-A tranches of most of the CDOs it created. In many cases Citigroup would hedge the associated credit risk from these tranches by obtaining credit protection from a monoline insurance company such as Ambac. Because these hedges were in place, Citigroup presumed that the risk associated with the retained tranches had been neutralized.

Citigroup reported these tranches at values for which they could not be sold, raising questions about their accuracy and, therefore, the accuracy of reported earnings. “As everybody in any business knows, if inventory is growing, that means you’re not pricing it correctly,” Richard Bookstaber, who had been head of risk management at Citigroup in the late 1990s, told the FCIC. But keeping the tranches on the books at these prices improved the finances for creating the deal. “It was a hidden subsidy of the CDO business by mispricing,” Bookstaber said.⁴³ The company would not begin writing the securities down toward the market’s real valuations until the fall of 2007.

Part of the reason for retaining exposures to super-senior positions in CDOs was their favorable capital treatment. As we saw in an earlier chapter, under the 2001 Recourse Rule, one of the attractions of triple-A-rated securities was that banks were required to hold relatively less capital against them than against lower-rated securities. And if the bank held those assets in their trading account (as opposed to holding them as a long-term investment), it could get even better capital treatment under the 1996 Market Risk Amendment. That rule allowed banks to use their own models to determine how much capital to hold, an amount that varied according to how much market prices moved. Citigroup judged that the capital requirement for the super-senior tranches of synthetic CDOs it held for trading purposes was effectively zero, be-

cause the prices didn't move much. As a result, Citigroup held little regulatory capital against the super-senior tranches.

Citibank also held "unfunded" positions in super-senior tranches of some synthetic CDOs; that is, it sold protection to the CDO. If the referenced mortgage collateral underperformed, the short investors would begin to get paid. Money to pay them would come first from wiping out long investors who had bought tranches that were below triple-A. Then, if the short investors were still owed money, Citibank would have to pay. For taking on this risk, Citi typically received about 0.20% to 0.40% in annual fees on the super-senior protection; on a billion-dollar transaction, it would earn an annual fee of \$2 million to \$4 million.

Citigroup also had exposure to the mortgage-backed and other securities that went into CDOs during the ramp-up period, which could be as long as six or nine months, before it packaged and sold the CDO. Typically, Citigroup's securities unit would set up a warehouse funding line for the CDO manager. During the ramp-up period, the collateral securities would pay interest; depending on the terms of the agreement, that interest would either go exclusively to Citigroup or be split with the manager. For the CDO desk, this frequently represented a substantial income stream. The securities sitting in the warehouse facility had relatively attractive yields—often 1.0% to 2.5% more than the typical bank borrowing rate—and it was not uncommon for the CDO desk to earn \$10 to \$15 million in interest on a single transaction.⁴⁴ Traders on the desk would get credit for those revenues at bonus time. But Citigroup would also be on the hook for any losses incurred on assets stuck in the warehouse. When the financial crisis deepened, many CDO transactions could not be completed; Citigroup and other investment banks were forced to write down the value of securities held in their warehouses. The result would be substantial losses across Wall Street. In many cases, to offload assets underwriters placed collateral from CDO warehouses into other CDOs.

A factor that made firm-wide hedging complicated was that different units of Citigroup could have various and offsetting exposures to the same CDO. It was possible, even likely, that the CDO desk would structure a given CDO, a different division would buy protection for the underlying collateral, and yet another division would buy the unfunded super-senior tranche. If the collateral in this CDO ran into trouble, the CDO immediately would have to pay the division that bought credit protection on the underlying collateral; if the CDO ran out of money to pay, it would have to draw on the division that bought the unfunded tranche. In November 2007, after Citigroup had reported substantial losses on its CDO portfolio, regulators would note that the company did not have a good understanding of its firmwide CDO exposures: "The nature, origin, and size of CDO exposure were surprising to many in senior management and the board. The liquidity put exposure was not well known. In particular, management did not consider or effectively manage the credit risk inherent in CDO positions."⁴⁵

Citigroup's willingness to use its balance sheet to support the CDO business had the desired effect. Its CDO desk created \$11 billion in CDOs that included mortgage-

backed securities in their collateral in 2005 and \$22 billion in 2006. Among CDO underwriters, including all types of CDOs, Citigroup rose from fourteenth place in 2003 to second place in 2007, according to FCIC analysis of Moody's data.⁴⁶

What was good for Citigroup's investment bank was also lucrative for its investment bankers. Thomas Maheras, the co-CEO of the investment bank who said he spent less than 1% of his time thinking about CDOs, was a highly paid Citigroup executive, earning more than \$34 million in salary and bonus compensation in 2006. Co-head of Global Fixed Income Randolph Barker made about \$21 million in that same year. Citigroup's chief risk officer made \$7.4 million.⁴⁷ Others were also well rewarded. The co-heads of the global CDO business, Nestor Dominguez and Janice Warne, each made about \$6 million in total compensation in 2006.⁴⁸

Citi did have "clawback" provisions: under narrowly specified circumstances, compensation would have to be returned to the firm. But despite Citigroup's eventual large losses, no compensation was ever clawed back under this policy. The Corporate Library, which rates firms' corporate governance, gave Citigroup a C. In early 2007, the Corporate Library would downgrade Citigroup to a D, "reflecting a high degree of governance risk." Among the issues cited: executive compensation practices that were poorly aligned with shareholder interests.⁴⁹

Where were Citigroup's regulators while the company piled up tens of billions of dollars of risk in the CDO business? Citigroup had a complex corporate structure and, as a result, faced an array of supervisors. The Federal Reserve supervised the holding company but, as the Gramm-Leach-Bliley legislation directed, relied on others to monitor the most important subsidiaries: the Office of the Comptroller of the Currency (OCC) supervised the largest bank subsidiary, Citibank, and the SEC supervised the securities firm, Citigroup Global Markets. Moreover, Citigroup did not really align its various businesses with the legal entities. An individual working on the CDO desk on an intricate transaction could interact with various components of the firm in complicated ways.

The SEC regularly examined the securities arm on a three-year examination cycle, although it would also sometimes conduct other examinations to target specific concerns. Unlike the Fed and OCC, which had risk management and safety and soundness rules, the SEC used these exams to look for general weaknesses in risk management. Unlike safety and soundness regulators, who concentrated on preventing firms from failing, the SEC always kept its focus on protecting investors. Its most recent review of Citigroup's securities arm preceding the crisis was in 2005, and the examiners completed their report in June 2006. In that exam, they told the FCIC, they saw nothing "earth shattering," but they did note key weaknesses in risk management practices that would prove relevant—weaknesses in internal pricing and valuation controls, for example, and a willingness to allow traders to exceed their risk limits.⁵⁰

Unlike the SEC, the Fed and OCC did maintain a continuous on-site presence. During the years that CDOs boomed, the OCC team regularly criticized the company for its weaknesses in risk management, including specific problems in the CDO

business. “Earnings and profitability growth have taken precedence over risk management and internal control,” the OCC told the company in January 2005.⁵¹ Another document from that year stated, “The findings of this examination are disappointing, in that the business grew far in excess of management’s underlying infrastructure and control processes.”⁵² In May 2005, a review undertaken by peers at the other Federal Reserve banks was critical of the New York Fed—then headed by the current treasury secretary, Timothy Geithner—for its oversight of Citigroup. The review concluded that the Fed’s on-site Citigroup team appeared to have “insufficient resources to conduct continuous supervisory activities in a consistent manner. At Citi, much of the limited team’s energy is absorbed by topical supervisory issues that detract from the team’s continuous supervision objectives . . . the level of the staffing within the Citi team has not kept pace with the magnitude of supervisory issues that the institution has realized.”⁵³ That the Fed’s 2005 examination of Citigroup did not raise the concerns expressed that same year by the OCC may illustrate these problems. Four years later, the next peer review would again find substantial weaknesses in the New York Fed’s oversight of Citigroup.⁵⁴

In April 2006, the Fed raised the holding company’s supervisory rating from the previous year’s “fair” to “satisfactory.”⁵⁵ It lifted the ban on new mergers imposed the previous year in response to Citigroup’s many regulatory problems.⁵⁶ The Fed and OCC examiners concurred that the company had made “substantial progress” in implementing CEO Charles Prince’s plan to overhaul risk management. The Fed declared: “The company has . . . completed improvements necessary to bring the company into substantial compliance with two existing Federal Reserve enforcement actions related to the execution of highly structured transactions and controls.”⁵⁷ The following year, Citigroup’s board would allude to Prince’s successful resolution of its regulatory compliance problems in justifying his 20% compensation increase.⁵⁸

The OCC noted in retrospect that the lifting of supervisory constraints in 2006 had been a key turning point. “After regulatory restraints against significant acquisitions were lifted, Citigroup embarked on an aggressive acquisition program,” the OCC wrote to Vikram Pandit, Prince’s replacement, in early 2008. “Additionally, with the removal of formal and informal agreements, the previous focus on risk and compliance gave way to business expansion and profits.” Meanwhile, risk managers granted exceptions to limits, and increased exposure limits, instead of keeping business units in check as they had told the regulators.⁵⁹ Well after Citigroup sustained large losses on its CDOs, the Fed would criticize the firm for using its commercial bank to support its investment banking activities. “Senior management allowed business lines largely unchallenged access to the balance sheet to pursue revenue growth,” the Fed wrote in an April 2008 letter to Pandit. “Citigroup attained significant market share across numerous products, including leveraged finance and structured credit trading, utilizing balance sheet for its ‘originate to distribute’ strategy. Senior management did not appropriately consider the potential balance sheet implications of this strategy in the case of market disruptions. Further, they did not adequately assess the potential negative impact of earnings volatility of these businesses on the firm’s capital position.”⁶⁰

Geithner told the Commission that he and others in leadership positions could have done more to prevent the crisis, testifying, “I do not believe we were powerless.”⁶¹

AIG: “I’M NOT GETTING PAID ENOUGH TO STAND ON THESE TRACKS”

Unlike their peers at Citigroup, some senior executives at AIG’s Financial Products subsidiary had figured out that the company was taking on too much risk. Nonetheless, they did not do enough about it. Doubts about all the credit default swaps that they were originating emerged in 2005 among AIG Financial Products executives, including Andrew Forster and Gene Park. Park told the FCIC that he witnessed Financial Products CEO Joseph Cassano berating a salesman over the large volume of credit default swaps being written by AIG Financial Products, suggesting there was already some high-level uneasiness with these deals. Told by a consultant, Gary Gorton, that the “multisector” CDOs on which AIG was selling credit default swaps consisted mainly of mortgage-backed securities with less than 10% subprime and Alt-A mortgages, Park asked Adam Budnick, another AIG employee, for verification. Budnick double checked and returned to say, according to Park, “I can’t believe it. You know, it’s like 80 or 90%.” Reviewing the portfolio—and thinking about a friend who had received 100% financing for his new home after losing his job—Park said, “This is horrendous business. We should get out of it.”⁶²

In July 2005, Park’s colleague Andrew Forster sent an email both to Alan Frost, the AIG salesman primarily responsible for the company’s booming credit default swap business, and to Gorton, who had engineered the formula to determine how much risk AIG was taking on each CDS it wrote. “We are taking on a huge amount of sub prime mortgage exposure here,” Forster wrote. “Everyone we have talked to says they are worried about deals with huge amounts [of high-risk mortgage] exposure yet I regularly see deals with 80% [high-risk mortgage] concentrations currently. Are these really the same risk as other deals?”⁶³

Park and others studied the issue for weeks, talked to bank analysts and other experts, and considered whether it made sense for AIG to continue to write protection on the subprime and Alt-A mortgage markets. The general view of others was that some of the underlying mortgages “were structured to fail, [but] that all the borrowers would basically be bailed out as long as real estate prices went up.”⁶⁴

The AIG consultant Gorton recalled a meeting that he and others from AIG had with one Bear Stearns analyst. The analyst was so optimistic about the housing market that they thought he was “out of his mind” and “must be on drugs or something.”⁶⁵ Speaking of a potential decline in the housing market, Park related to the FCIC the risks as he and some of his colleagues saw them, saying, “We weren’t getting paid enough money to take that risk. . . . I’m not going to opine on whether there’s a train on its way. I just know that I’m not getting paid enough to stand on these tracks.”⁶⁶

By February 2006, Park and others persuaded Cassano and Frost to stop writing

CDS protection on subprime mortgage-backed securities. In an email to Cassano on February 28, Park wrote:

Joe,

Below summarizes the message we plan on delivering to dealers later this week with regard to our approach to the CDO of ABS super senior business going forward. We feel that the CDO of ABS market has increasingly become less diverse over the last year or so and is currently at a state where deals are almost totally reliant on subprime/non prime residential mortgage collateral. Given current trends in the housing market, our perception of deteriorating underwriting standards, and the potential for higher rates we are no longer as comfortable taking such concentrated exposure to certain parts of the non prime mortgage securitizations. On the deals that we participate on we would like to see significant change in the composition of these deals going forward—i.e. more diversification into the non-correlated asset classes.

As a result of our ongoing due diligence we are not as comfortable with the mezzanine layers (namely BBB and single A tranches) of this asset class. . . . We realize that this is likely to take us out of the CDO of ABS market for the time being given the arbitrage in subprime collateral. However, we remain committed to working with underwriters and managers in developing the CDO of ABS market to hopefully become more diversified from a collateral perspective. With that in mind, we will be open to including new asset classes to these structures or increasing allocations to others such as [collateralized loan obligations] and [emerging market] CDOs.⁶⁷

AIG's counterparties responded with indifference. "The day that you [AIG] drop out, we're going to have 10 other people who are going to replace you," Park says he was told by an investment banker at another firm.⁶⁸ In any event, counterparties had some time to find new takers, because AIG Financial Products continued to write the credit default swaps. While the bearish executives were researching the issue from the summer of 2005 onward, the team continued to work on deals that were in the pipeline, even after February 2006. Overall, they completed 37 deals between September 2005 and July 2006—one of them on a CDO backed by 93% subprime assets.⁶⁹

By June 2007, AIG had written swaps on \$79 billion in multisector CDOs, five times the \$16 billion held at the end of 2005.⁷⁰ Park asserted that neither he nor most others at AIG knew at the time that the swaps entailed collateral calls on AIG if the market value of the referenced securities declined.⁷¹ Park said their concern was simply that AIG would be on the hook if subprime and Alt-A borrowers defaulted in large numbers. Cassano, however, told the FCIC that he did know about the possible

calls,⁷² but AIG's SEC filings to investors for 2005 mentioned the risk of collateral calls only if AIG were downgraded.

Still, AIG never hedged more than \$150 million of its total subprime exposure.⁷³ Some of AIG's counterparties not only used AIG's swaps to hedge other positions but also hedged AIG's ability to make good on its contracts. As we will see later, Goldman Sachs hedged aggressively by buying CDS protection on AIG and by shorting other securities and indexes to counterbalance the risk that AIG would fail to pay up on its swaps or that a collapsing subprime market would pull down the value of mortgage-backed securities.

MERRILL: "WHATEVER IT TAKES"

When Dow Kim became co-president of Merrill Lynch's Global Markets and Investment Banking Group in July 2003, he was instructed to boost revenue, especially in businesses in which Merrill lagged behind its competitors.⁷⁴ Kim focused on the CDO business; clients saw CDOs as an integral part of their trading strategy, CEO Stanley O'Neal told the FCIC.⁷⁵ Kim hired Chris Ricciardi from Credit Suisse, where Ricciardi's group had sold more CDOs than anyone else.⁷⁶

Ricciardi came through, lifting Merrill's CDO business from fifteenth place in 2002 to second place behind only Citigroup in 2004 and Goldman in 2005.⁷⁷ Then, in February 2006, he left the bank to become CEO of Cohen & Company, an asset management business; at Cohen he would manage several CDOs, often deals underwritten by Merrill.

After Ricciardi left, Kim instructed the rest of the team to do "whatever it takes" not just to maintain market share but also to take over the number one ranking, former employees said in a complaint filed against Merrill Lynch.⁷⁸ Kim told FCIC staff that he couldn't recall specific conversations but that after Ricciardi left, Merrill was still trying to expand the CDO business globally and that he, Kim, wanted people to know that Merrill was willing to commit its people, resources, and balance sheet to achieve that goal.⁷⁹

It was indeed willing. Despite the loss of its rainmaker, Merrill swamped the competition, originating a total \$38.9 billion in mortgage-related CDOs in 2006, while the second-ranked firm, Morgan Stanley, did only \$21.3 billion, and earning another first-place ranking in 2007,⁸⁰ on the strength of the CDO machine Ricciardi had built—a machine that brought in more than \$1 billion in fees between 2003 and 2006.⁸¹

To keep its CDO business going, Merrill pursued three strategies, all of which involved repackaging riskier mortgages more attractively or buying its own products when no one else would. Like Citigroup, Merrill increasingly retained for its own portfolio substantial portions of the CDOs it was creating, mainly the super-senior tranches, and it increasingly repackaged the hard-to-sell BBB-rated and other low-rated tranches of its CDOs into its other CDOs; it used the cash sitting in its synthetic CDOs to purchase other CDO tranches.

It had long been standard practice for CDO underwriters to sell some mezzanine tranches to other CDO managers. Even in the early days of ABS CDOs, these assets often contained a small percentage of mezzanine tranches of other CDOs; the rating agencies signed off on this practice when rating each deal. But reliance on them became heavier as the demand from traditional investors waned, as it had for the riskier tranches of mortgage-backed securities. The market came to call traditional investors the “real money,” to distinguish them from CDO managers who were buying tranches just to put them into their CDOs. Between 2005 and 2007, the typical amount a CDO could include of the tranches of other CDOs and still maintain its ratings grew from 5% to 30%, according to the CDO manager Wing Chau.⁸² According to data compiled by the FCIC, tranches from CDOs rose from an average of 7% of the collateral in mortgage-backed CDOs in 2003 to 14% by 2007. CDO-squared deals—those engineered primarily from the tranches of other CDOs—grew from 36 marketwide in 2005 to 48 in 2006 and 41 in 2007. Merrill created and sold 11 of them.⁸³

Still, there are clear signs that few “real money” investors remained in the CDO market by late 2006. Consider Merrill: for the 44 ABS CDOs that Merrill created and sold from the fourth quarter of 2006 through August 2007, nearly 80% of the mezzanine tranches were purchased by CDO managers.⁸⁴ The pattern was similar for Chau: an FCIC analysis determined that 88% of the mezzanine tranches sold by the 13 CDOs managed by Chau were sold for inclusion into other CDOs.⁸⁵ An estimated 10 different CDO managers purchased tranches in Merrill’s Norma CDO. In the most extreme case found by the FCIC, CDO managers were the only purchasers of Merrill’s Neo CDO.⁸⁶

Marketwide, in 2003 CDOs took in about 13% of the A tranches, 23% of the Aa tranches, and 43% of the Baa tranches issued by other CDOs, as rated by Moody’s. (Moody’s rating of Aaa is equivalent to S&P’s AAA, Aa to AA, Baa to BBB, and Ba to BB). In 2007, those numbers were 87%, 81%, and 89%, respectively.⁸⁷ Merrill and other investment banks simply created demand for CDOs by manufacturing new ones to buy the harder-to-sell portions of the old ones.

As SEC attorneys told the FCIC, heading into 2007 there was a Streetwide gentleman’s agreement: you buy my BBB tranche and I’ll buy yours.⁸⁸

Merrill and its CDO managers were the biggest buyers of their own products. Merrill created and sold 142 CDOs from 2003 to 2007. All but 8 of these—134 CDOs—sold at least one tranche into another Merrill CDO. In Merrill’s deals, on average, 10% of the collateral packed into the CDOs consisted of tranches of other CDOs that Merrill itself had created and sold. This was a relatively high percentage, but not the highest: for Citigroup, another big player in this market, the figure was 13%. For UBS, it was just 3%.⁸⁹

Managers defended the practice. Chau, who managed 13 CDOs created and sold by Merrill at Maxim Group and later Harding Advisory and had worked with Ricciardi at Prudential Securities in the early days of multisector CDOs, told the FCIC that plain mortgage-backed securities had become expensive in relation to their returns, even as the real estate market sagged. Because CDOs paid better returns than did

similarly rated mortgage-backed securities, they were in demand, and that is why CDO managers packed their securities with other CDOs.⁹⁰

And Merrill continued to push its CDO business despite signals that the market was weakening. As late as the spring of 2006, when AIG stopped insuring even the very safest, super-senior CDO tranches for Merrill and others, it did not reconsider its strategy. Cut off from AIG, which had already insured \$9.9 billion of its CDO bonds⁹¹—Merrill was AIG's third-largest counterparty, after Goldman and Société Générale—Merrill switched to the monoline insurance companies for protection. In the summer of 2006, Merrill management noticed that Citigroup, its biggest competitor in underwriting CDOs, was taking more super-senior tranches of CDOs onto its own balance sheet at razor-thin margins, and thus in effect subsidizing returns for investors in the BBB-rated and equity tranches. In response, Merrill continued to ramp up its CDO warehouses and inventory; and in an effort to compete and get deals done, it increasingly took on super-senior positions without insurance from AIG or the monolines.⁹²

This would not be the end of Merrill's all-in wager on the mortgage and CDO businesses. Even though it did grab the first-place trophy in the mortgage-related CDO business in 2006, it had come late to the “vertical integration” mortgage model that Lehman Brothers and Bear Stearns had pioneered, which required having a stake in every step of the mortgage business—originating mortgages, bundling these loans into securities, bundling these securities into other securities, and selling all of them on Wall Street. In September 2006, months after the housing bubble had started to deflate and delinquencies had begun to rise, Merrill announced it would acquire a subprime lender, First Franklin Financial Corp., from National City Corp. for \$1.3 billion. As a finance reporter later noted, this move “puzzled analysts because the market for subprime loans was souring in a hurry.”⁹³ And Merrill already had a \$100 million ownership position in Ownit Mortgage Solutions Inc., for which it provided a warehouse line of credit; it also provided a line of credit to Mortgage Lenders Network.⁹⁴ Both of those companies would cease operations soon after the First Franklin purchase.⁹⁵

Nor did Merrill cut back in September 2006, when one of its own analysts issued a report warning that this subprime exposure could lead to a sudden cut in earnings, because demand for these mortgages assets could dry up quickly.⁹⁶ That assessment was not in line with the corporate strategy, and Merrill did nothing. Finally, at the end of 2006, Kim instructed his people to reduce credit risk across the board.⁹⁷ As it would turn out, they were too late. The pipeline was too large.

REGULATORS: “ARE UNDUE CONCENTRATIONS OF RISK DEVELOPING?”

As had happened when they faced the question of guidance on nontraditional mortgages, in dealing with the rapidly changing structured finance market the regulators failed to take timely action. They missed a crucial opportunity. On January 2, 2003, one year after the collapse of Enron, the U.S. Senate Permanent Subcommittee on In-

vestigations called on the Fed, OCC, and SEC “to immediately initiate a one-time, joint review of banks and securities firms participating in complex structured finance products with U.S. public companies to identify those structured finance products, transactions, or practices which facilitate a U.S. company’s use of deceptive accounting in its financial statements or reports.” The subcommittee recommended the agencies issue joint guidance on “acceptable and unacceptable structured finance products, transactions and practices” by June 2003.⁹⁸ Four years later, the banking agencies and the SEC issued their “Interagency Statement on Sound Practices Concerning Elevated Risk Complex Structured Finance Activities,” a document that was all of nine pages long.⁹⁹

In the intervening years, from 2003 to 2007, the banking agencies and SEC issued two draft statements for public comment. The 2004 draft, issued the year after the OCC, Fed, and SEC had brought enforcement actions against Citigroup and JP Morgan for helping Enron to manipulate its financial statements, focused on the policies and procedures that financial institutions should have for managing the structured finance business.¹⁰⁰ The aim was to avoid another Enron—and for that reason, the statement encouraged financial institutions to look out for customers that, like Enron, were trying to use structured transactions to circumvent regulatory or financial reporting requirements, evade tax liabilities, or engage in other illegal or improper behavior.

Industry groups criticized the draft guidance as too broad, prescriptive, and burdensome. Several said it would cover many structured finance products that did not pose significant legal or reputational risks. Another said that it “would disrupt the market for legitimate structured finance products and place U.S. financial institutions at a competitive disadvantage in the market for [complex structured finance transactions] in the United States and abroad.”¹⁰¹

Two years later, in May 2006, the agencies issued an abbreviated draft that reflected a more “principles-based” approach, and again requested comments. Most of the requirements were very similar to those that the OCC and Fed had imposed on Citigroup and JP Morgan in the 2003 enforcement actions.¹⁰²

When the regulators issued the final guidance in January 2007, the industry was more supportive. One reason was that mortgage-backed securities and CDOs were specifically excluded: “Most structured finance transactions, such as standard public mortgage-backed securities and hedging-type transactions involving ‘plain vanilla’ derivatives or collateralized debt obligations, are familiar to participants in the financial markets, have well-established track records, and typically would not be considered [complex structured finance transactions] for purposes of the Final Statement.”¹⁰³ Those exclusions had been added after the regulators received comments on the 2004 draft.

Regulators did take note of the potential risks of CDOs and credit default swaps. In 2005, the Basel Committee on Banking Supervision’s Joint Forum, which includes banking, securities, and insurance regulators from around the world, issued a comprehensive report on these products. The report focused on whether banks and other firms involved in the CDO and credit default swap business understood the credit

risk they were taking. It advised them to make sure that they understood the nature of the rating agencies' models, especially for CDOs. And it further advised them to make sure that counterparties from whom they bought credit protection—such as AIG and the financial guarantors—would be good for that protection if it was needed.¹⁰⁴

The regulators also said they had researched in some depth, for the CDO and derivatives market, the question “Are undue concentrations of risk developing?” Their answer: probably not. The credit risk was “quite modest,” the regulators concluded, and the monoline financial guarantors appeared to know what they were doing.¹⁰⁵

The [Joint Forum's Working Group on Risk Assessment and Capital] has not found evidence of ‘hidden concentrations’ of credit risk. There are some non-bank firms whose primary business model focuses on taking on credit risk. Most important among these firms are the monoline financial guarantors. Other market participants seem to be fully aware of the nature of these firms. In the case of the monolines, credit risk has always been a primary business activity and they have invested heavily in obtaining the relevant expertise. While obviously this does not rule out the potential for one of these firms to experience unanticipated problems or to misjudge the risks, their risks are primarily at the catastrophic or macroeconomic level. It is also clear that such firms are subjected to regulatory, rating agency, and market scrutiny.¹⁰⁶

The regulators noted that industry participants appeared to have learned from earlier flare-ups in the CDO sector: “The Working Group believes that it is important for investors in CDOs to seek to develop a sound understanding of the credit risks involved and not to rely solely on rating agency assessments. In many respects, the losses and downgrades experienced on some of the early generation of CDOs have probably been salutary in highlighting the potential risks involved.”¹⁰⁷

MOODY'S: “IT WAS ALL ABOUT REVENUE”

Like other market participants, Moody's Investors Service, one of the three dominant rating agencies, was swept up in the frenzy of the structured products market. The tranching structure of mortgage-backed securities and CDOs was standardized according to guidelines set by the agencies; without their models and their generous allotment of triple-A ratings, there would have been little investor interest and few deals. Between 2002 and 2006, the volume of Moody's business devoted to rating residential mortgage-backed securities more than doubled; the dollar value of that business increased from \$62 million to \$169 million; the number of staff rating these deals doubled. But over the same period, while the volume of CDOs to be rated increased sevenfold, staffing increased only 24%. From 2003 to 2006, annual revenue tied to CDOs grew from \$12 million to \$91 million.¹⁰⁸

When Moody's Corporation went public in 2000, the investor Warren Buffett's

Berkshire Hathaway held 15% of the company. After share repurchases by Moody's Corporation, Berkshire Hathaway's holdings of outstanding shares increased to over 20% by 2008. As of 2010, Berkshire Hathaway and three other investors owned a combined 50.5% of Moody's. When asked whether he was satisfied with the internal controls at Moody's, Buffett responded to the FCIC that he knew nothing about the management of Moody's. "I had no idea. I'd never been at Moody's, I don't know where they are located."¹⁰⁹ Buffett said that he invested in the company because the rating agency business was "a natural duopoly," which gave it "incredible" pricing power—and "the single-most important decision in evaluating a business is pricing power."¹¹⁰

Many former employees said that after the public listing, the company culture changed—it went "from [a culture] resembling a university academic department to one which values revenues at all costs," according to Eric Kolchinsky, a former managing director.¹¹¹ Employees also identified a new focus on market share directed by former president of Moody's Investors Service Brian Clarkson. Clarkson had joined Moody's in 1991 as a senior analyst in the residential mortgage group, and after successive promotions he became co-chief operating officer of the rating agency in 2004, and then president in August 2007.¹¹² Gary Witt, a former team managing director covering U.S. derivatives, described the cultural transformation under Clarkson: "My kind of working hypothesis was that [former chairman and CEO] John Rutherford was thinking, 'I want to remake the culture of this company to increase profitability dramatically [after Moody's became an independent corporation],' and that he made personnel decisions to make that happen, and he was successful in that regard. And that was why Brian Clarkson's rise was so meteoric: . . . he was the enforcer who could change the culture to have more focus on market share."¹¹³ The former managing director Jerome Fons, who was responsible for assembling an internal history of Moody's, agreed: "The main problem was . . . that the firm became so focused, particularly the structured area, on revenues, on market share, and the ambitions of Brian Clarkson, that they willingly looked the other way, traded the firm's reputation for short-term profits."¹¹⁴

Moody's Corporation Chairman and CEO Raymond McDaniel did not agree with this assessment, telling the FCIC that he didn't see "any particular difference in culture" after the spin-off.¹¹⁵ Clarkson also disputed this version of events, explaining that market share was important to Moody's well before it was an independent company. "[The idea that before Moody's] was spun off from Dun & Bradstreet, it was a sort of sleepy, academic kind of company that was in an ivory tower . . . isn't the case, you know," he explained. "I think [the ivory tower] was really a misnomer. I think that Moody's has always been focused on business."¹¹⁶

Clarkson and McDaniel also adamantly disagreed with the perception that concerns about market share trumped ratings quality. Clarkson told the FCIC that it was fine for Moody's to lose transactions if it was for the "right reasons": "If it was an analytical reason or it was a credit reason, there's not a lot you can do about that. But if you're losing a deal because you're not communicating, you're not being transparent, you're not picking up the phone, that could be problematic."¹¹⁷ McDaniel cited unforeseen market conditions as the reason that the models did not accurately predict the credit

quality.¹¹⁸ He testified to the FCIC, “We believed that our ratings were our best opinion at the time that we assigned them. As we obtained new information and were able to update our judgments based on the new information and the trends we were seeing in the housing market, we made what I think are appropriate changes to our ratings.”¹¹⁹

Nonetheless, Moody’s president did not seem to have the same enthusiasm for compliance as he did for market share and profit, according to those who worked with him. Scott McCleskey, a former chief compliance officer at Moody’s, recounted a story to the FCIC about an evening when he and Clarkson were dining with the board of directors after the company had announced strong earnings, particularly in the business of rating mortgage-backed securities and CDOs. “So Brian Clarkson comes up to me, in front of everybody at the table, including board members, and says literally, ‘How much revenue did Compliance bring in this quarter? Nothing. Nothing’ . . . For him to say that in front of the board, that’s just so telling of how he felt that he was bulletproof. . . . For him, it was all about revenue.”¹²⁰ Clarkson told the FCIC that he didn’t remember this conversation transpiring and said, “From my perspective, compliance is a very important function.”¹²¹

According to some former Moody’s employees, Clarkson’s management style left little room for discussion or dissent. Witt referred to Clarkson as the “dictator” of Moody’s and said that if he asked an employee to do something, “either you comply with his request or you start looking for another job.”¹²² “When I joined Moody’s in late 1997, an analyst’s worst fear was that we would contribute to the assignment of a rating that was wrong,” Mark Froeba, former senior vice president, testified to the FCIC. “When I left Moody’s, an analyst’s worst fear was that he would do something, or she, that would allow him or her to be singled out for jeopardizing Moody’s market share.”¹²³ Clarkson denied having a “forceful” management style, and his supervisor, Raymond McDaniel, told the FCIC that Clarkson was a “good manager.”¹²⁴

Former team managing director Gary Witt recalled that he received a monthly email from Clarkson “that outlined basically my market share in the areas that I was in charge of. . . . I believe it listed the deals that we did, and then it would list the deals like S&P and/or Fitch did that we didn’t do that was in my area. And at times, I would have to comment on that verbally or even write a written report about—you know, look into what was it about that deal, why did we not rate it. So, you know, it was clear that market share was important to him.” Witt acknowledged the pressures that he felt as a manager: “When I was an analyst, I just thought about getting the deals right. . . . Once I [was promoted to managing director and] had a budget to meet, I had salaries to pay, I started thinking bigger picture. I started realizing, yes, we do have shareholders and, yes, they deserved to make some money. We need to get the ratings right first, that’s the most important thing; but you do have to think about market share.”¹²⁵

Even as far back as 2001, a strong emphasis on market share was evident in employee performance evaluations. In July 2001, Clarkson circulated a spreadsheet to subordinates that listed 49 analysts and the number and dollar volume of deals each had “rated” or “NOT rated.” Clarkson’s instructions: “You should be using this in PE’s

[performance evaluations] and to give people a heads up on where they stand relative to their peers.”¹²⁶ Team managing directors, who oversaw the analysts rating the deals, received a base salary, cash bonus, and stock options. Their performance goals generally fell into the categories of market coverage, revenue, market outreach (such as speeches and publications), ratings quality, and development of analytical tools, only one of which was impossible to measure in real time as compensation was being awarded: ratings quality. It might take years for the poor quality of a rating to become clear as the rated asset failed to perform as expected.

In January 2006, a derivatives manager listed his most important achievements in a 2005 performance evaluation. At the top of the list: “Protected our market share in the CDO corporate cash flow sector. . . . To my knowledge we missed only one CLO [collateralized loan obligation] from BofA and that CLO was unratable by us because of its [*sic*] bizarre structure.”¹²⁷

More evidence of Moody’s emphasis on market share was provided by an email that circulated in the fall of 2007, in the midst of significant downgrades in the structured finance market. Group Managing Director of U.S. Derivatives Yuri Yoshizawa asked her team’s managing directors to explain a market share decrease from 98% to 94%.¹²⁸

Despite this apparent emphasis on market share, Clarkson told the FCIC that “the most important goal for any managing director would be credibility . . . and performance [of] the ratings.”¹²⁹ McDaniel, the chairman and CEO of Moody’s Corporation, elaborated: “I disagree that there was a drive for market share. We pay attention to our position in the market. . . . But ratings quality, getting the ratings to the best possible predictive content, predictive status, is paramount.”¹³⁰

Whatever McDaniel’s or Clarkson’s intended message, some employees continued to see an emphasis on Moody’s market share. Former team managing director Witt recalled that the “smoking gun” moment of his employment at Moody’s occurred during a “town hall” meeting in the third quarter of 2007 with Moody’s management and its managing directors, after Moody’s had already announced mass downgrades on mortgage-related securities.¹³¹ After McDaniel made a presentation about Moody’s financial outlook for the year ahead, one managing director responded: “I was interested, Ray, to hear your belief that the first thing in the minds of people in this room is the financial outlook for the remainder of the year. . . . [M]y thinking is there’s a much greater concern about the franchise.” He added, “I think that the greater anxiety being felt by the people in this room and . . . by the analysts is what’s going on with the ratings and what the outlook is[,] . . . specifically the severe ratings transitions we’re dealing with . . . and uncertainty about what’s ahead on that, the ratings accuracy.”¹³² Witt recalled, “Moody’s reputation was just being absolutely lacerated; and that these people are standing here, and they’re not even addressing—they’re acting like it’s not even happening, even now that it’s already happened. . . . [T]hat just made it so clear to me . . . that the balance was far too much on the side of short-term profitability.”¹³³

In an internal memorandum from October 2007 sent to McDaniel, in a section titled “Conflict of Interest: Market Share,” Chief Credit Officer Andrew Kimball

explained that “Moody’s has erected safeguards to keep teams from too easily solving the market share problem by lowering standards.” But he observed that these protections were far from fail-safe, as he detailed in two areas. First, “Ratings are assigned by committee, not individuals. (However, entire committees, entire departments, are susceptible to market share objectives).” Second, “Methodologies & criteria are published and thus put boundaries on rating committee discretion. (However, there is usually plenty of latitude within those boundaries to register market influence.)”¹³⁴

Moreover, the pressure for market share, combined with complacency, may have deterred Moody’s from creating new models or updating its assumptions, as Kimball wrote: “Organizations often interpret past successes as evidencing their competence and the adequacy of their procedures rather than a run of good luck. . . . [O]ur 24 years of success rating RMBS [residential mortgage-backed securities] may have induced managers to merely fine-tune the existing system—to make it more efficient, more profitable, cheaper, more versatile. Fine-tuning rarely raises the probability of success; in fact, it often makes success less certain.”¹³⁵

If an issuer didn’t like a Moody’s rating on a particular deal, it might get a better rating from another ratings agency. The agencies were compensated only for rated deals—in effect, only for the deals for which their ratings were accepted by the issuer. So the pressure came from two directions: in-house insistence on increasing market share and direct demands from the issuers and investment bankers, who pushed for better ratings with fewer conditions.¹³⁶

Richard Michalek, a former Moody’s vice president and senior credit officer, testified to the FCIC, “The threat of losing business to a competitor, even if not realized, absolutely tilted the balance away from an independent arbiter of risk towards a captive facilitator of risk transfer.”¹³⁷ Witt agreed. When asked if the investment banks frequently threatened to withdraw their business if they didn’t get their desired rating, Witt replied, “Oh God, are you kidding? All the time. I mean, that’s routine. I mean, they would threaten you all of the time. . . . It’s like, ‘Well, next time, we’re just going to go with Fitch and S&P.’”¹³⁸ Clarkson affirmed that “it wouldn’t surprise me to hear people say that” about issuer pressure on Moody’s employees.¹³⁹

Former managing director Fons suggested that Moody’s was complaisant when it should have been principled: “[Moody’s] knew that they were being bullied into caving in to bank pressure from the investment banks and originators of these things. . . . Moody’s allow[ed] itself to be bullied. And, you know, they willingly played the game. . . . They could have stood up and said, ‘I’m sorry, this is not—we’re not going to sign off on this. We’re going to protect investors. We’re going to stop—you know, we’re going to try to protect our reputation. We’re not going to rate these CDOs, we’re not going to rate these subprime RMBS.’”¹⁴⁰

Kimball elaborated further in his October 2007 memorandum:

Ideally, competition would be primarily on the basis of ratings quality, with a second component of price and a third component of service.

Unfortunately, of the three competitive factors, rating quality is proving the least powerful given the long tail in measuring performance. . . . The real problem is not that the market does underweights [sic] ratings quality but rather that, in some sectors, it actually penalizes quality by awarding rating mandates based on the lowest credit enhancement needed for the highest rating. Unchecked, competition on this basis can place the entire financial system at risk. It turns out that ratings quality has surprisingly few friends: issuers want high ratings; investors don't want rating downgrades; and bankers game the rating agencies for a few extra basis points on execution.¹⁴¹

Moody's employees told the FCIC that one tactic used by the investment bankers to apply subtle pressure was to submit a deal for a rating within a very tight time frame. Kolchinsky, who oversaw ratings on CDOs, recalled the case of a particular CDO: "What the trouble on this deal was, and this is crucial about the market share, was that the banker gave us hardly any notice and any documents and any time to analyze this deal. . . . Because bankers knew that we could not say no to a deal, could not walk away from the deal because of a market share, they took advantage of that."¹⁴² For this CDO deal, the bankers allowed only three or four days for review and final judgment. Kolchinsky emailed Yoshizawa that the transactions had "egregiously pushed our time limits (and analysts)."¹⁴³ Before the frothy days of the peak of the housing boom, an agency took six weeks or even two months to rate a CDO.¹⁴⁴ By 2006, Kolchinsky described a very different environment in the CDO group: "Bankers were pushing more aggressively, so that it became from a quiet little group to more of a machine."¹⁴⁵ In 2006, Moody's gave triple-A ratings to an average of more than 30 mortgage securities each and every working day.¹⁴⁶

Such pressure can be seen in an April 2006 email to Yoshizawa from a managing director in synthetic CDO trading at Credit Suisse, who explained, "I'm going to have a major political problem if we can't make this [deal rating] short and sweet because, even though I always explain to investors that closing is subject to Moody's timelines, they often choose not to hear it."¹⁴⁷

The external pressure was summed up in Kimball's October 2007 memorandum: "Analysts and [managing directors] are continually 'pitched' by bankers, issuers, investors—all with reasonable arguments—whose views can color credit judgment, sometimes improving it, other times degrading it (we 'drink the kool-aid'). Coupled with strong internal emphasis on market share & margin focus, this does constitute a 'risk' to ratings quality."¹⁴⁸

The SEC investigated the rating agencies' ratings of mortgage-backed securities and CDOs in 2007, reporting its findings to Moody's in July 2008. The SEC criticized Moody's for, among other things, failing to verify the accuracy of mortgage information, leaving that work to due diligence firms and other parties; failing to retain documentation about how most deals were rated; allowing ratings quality to be compromised by the complexity of CDO deals; not hiring sufficient staff to rate

CDOs; pushing ratings out the door with insufficient review; failing to adequately disclose its rating process for mortgage-backed securities and CDOs; and allowing conflicts of interest to affect rating decisions.¹⁴⁹

So matters stood in 2007, when the machine that had been humming so smoothly and so lucratively slipped a gear, and then another, and another—and then seized up entirely.

COMMISSION CONCLUSIONS ON CHAPTER 10

The Commission concludes that the credit rating agencies abysmally failed in their central mission to provide quality ratings on securities for the benefit of investors. They did not heed many warning signs indicating significant problems in the housing and mortgage sector. Moody's, the Commission's case study in this area, continued issuing ratings on mortgage-related securities, using its outdated analytical models, rather than making the necessary adjustments. The business model under which firms issuing securities paid for their ratings seriously undermined the quality and integrity of those ratings; the rating agencies placed market share and profit considerations above the quality and integrity of their ratings.

Despite the leveling off and subsequent decline of the housing market beginning in 2006, securitization of collateralized debt obligations (CDOs), CDOs squared, and synthetic CDOs continued unabated, greatly expanding the exposure to losses when the housing market collapsed and exacerbating the impact of the collapse on the financial system and the economy.

During this period, speculators fueled the market for synthetic CDOs to bet on the future of the housing market. CDO managers of these synthetic products had potential conflicts in trying to serve the interests of customers who were betting mortgage borrowers would continue to make their payments and of customers who were betting the housing market would collapse.

There were also potential conflicts for underwriters of mortgage-related securities to the extent they shorted the products for their own accounts outside of their roles as market makers.