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REMARKS

WHAT WENT WRONG? A TRAGEDY IN THREE ACTS*

JOHN C. COFFEE, JR.**

It is good to be back in Minneapolis, good to be back at St. Thomas, and great to be back at the Holloran Center.

I am going to tell today a simple story of greed, rationalization, and sloth; it is a tragedy in three acts. The first act involves the collapse of what I will call the Great American Housing Bubble. The second act involves the failure of the gatekeepers, in particular; what happened at those credit rating agencies that could lead them to rate everything investment-grade? In the final act, I will turn to the collapse of the investment banks, the failure of securities regulation, and where that leaves us.

Although this is a tragedy, it is not a Shakespearian tragedy because Shakespearian tragedies feature either a noble hero or an epic villain; but there is no such greatness anywhere in this story. Its cast resembles more a herd of lemmings racing over a cliff, each trying to get out in front of the others.

Nor is it a Greek tragedy, because there is no inevitability. The gods did not decree these outcomes. And a few firms were actually smart enough largely to escape the crisis, thus proving that failure was not inevitable.

If my tone suggests a skepticism of the business community, it may have some Marxian roots. However, the Marx that is influencing me is not Karl, but Groucho Marx. Some of the things that happen in this story look as if they could have been lifted from scenes in *A Night at the Opera* or *A Day at the Races*.

Precisely because the recent financial collapse was so devastating, resembling the perfect storm or the 500-year flood, its story may strike some as a unique chapter in financial history that will never be repeated. That view must be firmly rejected. The critical message to this story is that these failures can and predictably will recur, unless there is regulatory change.

* This transcript has been lightly edited for purposes of this publication.

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ACT ONE

With that backdrop, let me move on to the enormous housing bubble that inflated during the post-2000 period. This is very recent history, but for many on Wall Street, that a bubble arose is an exculpatory conclusion. They will tell you, “Well, it’s sad, but bubbles happen, and when bubbles happen, investors lose their senses. There’s mass hysteria and no one’s really to blame.”

I find this “nobody to blame in a bubble” defense inadequate. Yes, there are bubbles, but bubbles really come into two categories. There are demand-driven bubbles, and there are supply-driven bubbles. Demand-driven bubbles are more common. We last saw one with the Internet bubble, which burst in 2000. True enough, there was a certain irrational euphoria among investors at that time about anything that involved the Internet, and they overvalued Internet startups, giving them nearly infinite price/earnings ratios.

But the current crisis is different. It arose in the debt markets, not the equity markets. Little evidence, if any, suggests that there was irrational exuberance about collateralized debt obligation on the part of investors. They just saw a marginally better rate of return, and they relied on the credit rating agencies with a confidence that proved ill-founded. In a supply-driven bubble, the “sell” side loses its sense of proportion and begins, for reasons next discussed, to make money available on a relaxed, and ultimately promiscuous, basis.

Driving this very different bubble was the rise, and eventually the failure, of a new financial technology, known as Asset-Backed Securitization. As will be seen, this financial technology depended very heavily on gatekeepers—that is, on professionals that investors trust to do what investors cannot do for themselves.¹ In the modern world, specialization is inevitable, self-help remedies have little efficacy, and thus reliance on gatekeepers cannot be avoided.

Asset-backed securitizations grew at an exponential pace. Fifteen years ago, they were a trivial percentage of all debt issued in the United States. However, by around 2002, the volume of debt issued in asset-based securitizations exceeded the total amount of corporate bonds issued by corporate issuers in the United States.² From 2002 to 2006, the volume of asset-backed offerings grew to greatly exceed traditional corporate debt.

1. For a general discussion of the concept of “gatekeepers” as reputational intermediaries who perform certifying and verification services for investors, see JOHN C. COFFEE, JR., *GATEKEEPERS: THE PROFESSIONS AND CORPORATE GOVERNANCE*, 4–10 (2006).

2. In 2002, corporate issuers sold \$636.7 billion in straight corporate debt and \$30.5 billion in convertible debt, whereas “asset-backed debt” in that year came to \$469.2 billion and “Non-agency MBS” (or mortgage-backed securities) came to \$263.9 billion, for a total of \$733.1 billion. In 1994, “asset-backed debt” came to only \$81.7 billion. See JOHN C. COFFEE, JR. & HILLARY A. SALE, *SECURITIES REGULATION: CASES AND MATERIALS* (11th ed. 2009) at 11–12.

What explains this sudden growth? As a financial technology, asset-backed securitizations enabled investment banks to package home mortgages into a security that could be marketed on a global basis, generating a new source of revenue for investment banks that were facing increasing competition from commercial banks. In turn, this technology channeled an extraordinary amount of capital to the mortgage markets. Between 2001 and 2006, the availability of mortgage funds increased sharply, with most of this increase being channeled to poorer communities where previously there had been a high denial rate on mortgage applications.³

However, two years after this increase began in 2002 or 2003, it was followed by a parallel increase in mortgage defaults.⁴ These mortgage defaults occurred in exactly the same high-latent-demand zip codes. Two Business School Professors at the University of Chicago, Atif Mian and Amir Sufi, have developed an elaborate database showing, on a zip code-by-zip code basis, where the new mortgage funds went and where defaults occurred over a 20-year period. They find that a one-standard deviation in the supply of mortgage funds from 2001 to 2005 produced more than a one-half standard deviation in mortgage default rates thereafter.⁵

That the rate of default was higher in poor communities is hardly surprising. After all, the poor are higher risk borrowers. But the truly surprising conclusion was that the rate of mortgage defaults was highest in those zip codes that had the highest rate of mortgage securitization.⁶ Even more revealing, the highest rates of default occurred on those mortgage loans where the mortgage loan originator sold the mortgage to an unaffiliated financial firm.⁷ Another recent academic study has found that a loan portfolio that was securitized was 20 percent more likely to default than an otherwise similar portfolio of mortgages that was not securitized.⁸

Now, those are surprising conclusions. What do they mean? They probably imply that mortgage bankers actually could distinguish, based on subjective criteria, those among otherwise objectively similar mortgage borrowers who were more likely to default; with this knowledge, they sold the less creditworthy loans to unrelated parties, while retaining the more creditworthy loans themselves. Of course, that is what you would do, too, if you could accurately evaluate which loans were riskier. But that it occurred systematically means that somewhere there was a systematic failure.

3. Atif Mian & Amir Sufi, *The Consequences of Mortgage Credit Expansion: Evidence from the 2007 Mortgage Default Crisis* 20–21 (Nat'l Bureau of Econ. Research, Working Paper No. 13936, 2008), available at <http://ssrn.com/abstract=1121728>.

4. *Id.* at 24–27.

5. *Id.* at 27.

6. *Id.* at 4.

7. *Id.*

8. See Benjamin J. Keys et al., *Did Securitization Lead to Lax Screening? Evidence from Subprime Loans* 2–3 (2008), available at <http://ssrn.com/abstract=1093137>.

What explains this? A conclusion that recent researchers have drawn—and that I agree with—is that securitization led to lax screening by the loan originator.⁹ Again, that should not be surprising. If you know that you do not have to bear the economic risk of an investment, and if you can make very high front-end fees on originating the loan, you will happily make and transfer mortgages and expend little time on screening borrowers—so long as you have buyers for the portfolios of mortgages that you are creating.

In economic terms, this is a classic moral hazard problem. Because you do not bear the risks, you will expend little time or effort on precautions, such as screening borrowers. But gatekeepers—in particular, the credit rating agencies—should have anticipated this shortfall and adjusted their own procedures and ratings.

Unsurprising as it was that lenders economized on due diligence when they did not bear the risk, the rapidity of this deterioration in lending standards should startle us. Let me show you a revealing chart:¹⁰

TABLE ONE

	Low/No-Doc Share	Debt Payments/Income	Loan/Value	ARM Share	Interest-Only Share
2001	28.5%	39.7%	84.0%	73.8%	0.0%
2002	38.6%	40.1%	84.4%	80.0%	2.3%
2003	42.8%	40.5%	86.1%	80.1%	8.6%
2004	45.2%	41.2%	84.9%	89.4%	27.3%
2005	50.7%	41.8%	83.2%	93.3%	37.8%
2006	50.8%	42.4%	83.4%	91.3%	22.8%

Virtually leaping off the page here is the sharp increase, from 2001 to 2006, in low no-document loans, which rose from 28.5% of subprime mortgages in 2001 to 50.8% in 2006.

A no-document loan is more colloquially known these days as a “liar’s loan”; sometimes, it is also called a “NINJA loan,” meaning “No Income, No Job, No Assets.” This sharp rise from 2001 to 2006 measures the growing indifference of those buying these loan portfolios from the loan originators to the creditworthiness of their borrowers.

Equally revealing is the column in the foregoing table showing the increase in adjustable rate mortgages. These are what are also known as “teaser loans.” They have an initial low interest rate that rises after a few years. Now, some will see this as predatory lending, and it may be in some cases. Alternatively, these borrowers may have included risk-taking bor-

9. See *id.*; Mian and Sufi, *supra* note 3.

10. Allen Ferrell et al., *Legal and Economic Issues in Litigation Arising from the 2007–2008 Credit Crisis* 83 (2008), available at <http://ssrn.com/abstract=1096582>.

rowers who said to themselves: “I can’t pay this loan at 6 percent, but I can pay the first two years at 2 percent and then hope at the end of two years I can flip this house and thereby make a 30 percent gain.” That also is a risky bet that assumes housing prices will always rise (and historically they have frequently dipped).

In any event, by 2006, we move up to 91 percent of mortgage-backed-securitization mortgages having a loan rate that changes. That, of course, is a factor that greatly increases the default rate if you cannot sell or cannot refinance (which is what happens when housing prices fall).

Between 2001 and 2006, lenders and loan originators also began to make “interest only” mortgage loans. As the foregoing chart shows, these amount to zero percent in 2001, but they grew to 23 percent in 2006. These are loans being made to people who, even on the face of it, do not have the ability to pay a monthly payment that will amortize the mortgage. Hence, they are paying only the interest for a period of time without any repayment of principal. They represent about a quarter of the total share of subprime mortgages by 2006.

Why did lenders display such indifference to credit quality? The underlying assumption of both the people making these loans and the gatekeeper evaluating them—the credit rating agency—was that housing prices would probably continue to rise at a level rate (say, 2 percent a year). In that kind of world, it mattered little if the borrower defaulted because the property would still grow in value. This premise proved wrong, but that is not the whole story.

Something else was changing at this same time, and it relates to our concern about ethics. Over this period from roughly 1996 to 2006, there was a very rapid decline in the due diligence associated with these offerings. When you go back to the early days—the early days being the mid-1990s—of asset-backed securitization, the investment banking firm that was going to buy this portfolio of mortgage loans from a savings bank (or a mortgage loan broker) would typically retain a special due-diligence firm.

The due-diligence firms—Clayton Holdings was the best known of them¹¹—would send a squad of experienced professionals out to the savings bank or other loan originator, and they would screen the mortgages in the portfolio, possibly checking something like 30 percent of them. Based on this sampling, they would report back to the investment banker as to whether the loan portfolio fell within the usual lending parameters for the investment bank.

11. Clayton Holdings has received considerable media attention after entering into an agreement with New York Attorney General Andrew Cuomo to cooperate in return for immunity with his investigation of whether investment banks hid material information from investors and credit rating agencies. See Amir Efrati, *Due-Diligence Firm to Aid New York Subprime Probe*, WALL ST. J., Jan. 28, 2008, at A2.

That was 1996. Thereafter, the sampling gradually goes down from 30 percent, to 20 percent, to 5 percent, eventually to zero percent.¹² The Los Angeles Times has reported that sometimes the due diligence firms told the investment banks that the loan portfolio was well outside the usual parameters, but the investment banks chose not to listen and closed the deal anyway.¹³ By the early-2000s, investment banks largely stopped using the due-diligence firms. From there on, they were largely flying blind.

That takes us through the first chapter. What have we seen? More is happening than simply the deterioration in lending standards. The higher default rate on loans that are securitized shows that the loan originators were behaving quite rationally. They simply recognized, perhaps gradually at first, that investment banks were increasingly ready to buy portfolios of mortgages with little and eventually no due diligence. The result was moral hazard. If anything can be sold to the investment banks, the loan originators quickly came to be willing to make loans without regard to credit quality—because they did not expect to hold these loans long enough to face any risk.

Thus, the true mystery here is not why loan originators made unsound loans, but why investment banks bought them. The direction of the causality, I suggest, is from investment banks to the loan origination field, not the reverse.

You will hear from my friends at investment banks the opposite story. “We were inundated with bad loans.” Yes, they were, but it was because they stopped monitoring loan quality. Once you signal you will buy anything, loan quality naturally deteriorated rapidly.

Now, that raises the next questions: Where were the gatekeepers? Why was no one looking? Who should have been looking? Here, we move on to our next chapter about the failure of gatekeepers.

ACT TWO

Who are gatekeepers? Elsewhere, I have described them in typically wordy academic terms as “reputational intermediaries.”¹⁴ They are the experts on whom investors rely because investors themselves cannot do the necessary investigative work (in this case, the work of deciding which mortgage portfolios are creditworthy and which are not). As reputational intermediaries, gatekeepers pledge a reputational capital that they have acquired over many years and many clients so that investors will trust their opinions (on the premise that they would not reasonably forfeit or sacrifice

12. See Vikas Bajaj & Jenny Andersen, *Inquiry Focuses on Withholding of Data on Loans*, N.Y. TIMES, Jan. 12, 2008, at A1.

13. See Scott Reckard, *LENDING: Sub-prime mortgage watchdogs kept on leash; Loan checkers say their warnings were met with indifference*, L.A. TIMES, Mar. 17, 2008, at C1.

14. See COFFEE, *supra* note 1, at 4–10.

that capital for the modest profit that they could make on a single transaction).

Investors were particularly unable to investigate for themselves in the case of structured finance because it is inherently opaque. As outsiders, investors cannot evaluate the quality of the underlying collateral. A CDO is not like a corporate bond where you can at least look at the SEC filings, the issuer's audited financial statements, or just the issuer's stock price to tell you how it was doing. Because none of this extrinsic evidence is available in the case of structured finance, investors had to rely on what the credit rating agency told them—or not buy.

In overview, investment banks bought unsound loans because they knew they could securitize them on a global basis if—and only if—they could obtain investment-grade ratings from major credit rating agencies. Without that rating, the debt was unmarketable.

Thus, my hypothesis becomes clear: the credit rating agencies were the critical gatekeepers. Potentially, they could have insisted on their traditional standards, because as a practical matter there were only three agencies at all relevant times. But they did not. Instead, they relaxed their standards to accommodate their investment banking clients.

Why did that happen? Arguably, the credit rating agencies had immense reputational capital and should have protected it. After all, Moody's has been in business since 1909 and logically should have been particularly careful of its reputation. Still, there is an inherent ambiguity in the idea of reputational capital. What was the specific reputation they wanted to protect? Was it their reputation with investors for being prudent, careful, cautious, and diligent? Or, was it their reputation with investment banks for being creative, inventive, and problem-solving? Those are two different reputations, and the latter may have been ultimately more important to the credit rating agencies.

More importantly, two specific reasons, both rooted in market conditions, explain why the gatekeepers failed at this particular time. Reason one is that structured finance overtook traditional corporate bonds by 2002.¹⁵ As it did so, the nature of the rating agencies' clientele changed, and changed dramatically.

For years, the major rating agencies—Moody's and Standard & Poor—could brag that no single client accounted for as much as one percent of their revenues. Thus, no client could dominate or credibly threaten them with a loss of significant business, and that gave them professional independence.

Because even a major issuer—hypothetically, Exxon—might go to the debt market only every other year or so, it held no economic leverage over

15. See COFFEE & SALE, *supra* note 2.

the rating agencies, and largely for this reason, the rating agencies easily maintained their independence.

But this equilibrium changed the moment that structured finance became the source of a majority of the revenues for ratings agencies. For Moody's, structured finance amounted to over 54 percent of its ratings revenue as of 2006.¹⁶

Even more importantly, the world of structured finance is controlled by a concentrated group of investment banking firms who brought deals to the rating agencies on a monthly basis. These investment banks are repeat players, who also hire the rating agency as their consultant to teach them the rating agency's own methodology and thus help them design a product that can get an investment-grade rating. Thus, the rating agencies were no longer simply the outside gatekeeper. Acting both as consultants and gatekeepers, they faced serious conflicts between these two roles.

Still, the key fact is that structured finance was a very concentrated market. This means that your clients now have greater leverage, because a single investment bank could account for 10 percent of your structured finance revenues. Add to this the sudden rise of Fitch Ratings, and for the first time, there was a real challenger to the duopoly that Moody's and Standard & Poor had enjoyed for a long time.

Table Two illustrates just how concentrated this market became:¹⁷

TABLE TWO: MBS UNDERWRITERS IN 2007: A VERY CONCENTRATED MARKET

Rank	Book Runner	Number of Offerings	Market Share	Proceed Amount + Overallotment Sold in US (\$ mill)
1	Lehman Brothers	120	10.80%	\$100,109
2	Bear Stearns & Co., Inc.	128	9.90%	\$91,696
3	Morgan Stanley	92	8.20%	\$75,627
4	JP Morgan	95	7.90%	\$73,214
5	Credit Suisse	109	7.50%	\$69,503
6	Bank of America Securities LLC	101	6.80%	\$62,776
7	Deutsche Bank AG	85	6.20%	\$57,337
8	Royal Bank of Scotland Group	74	5.80%	\$53,352
9	Merrill Lynch	81	5.20%	\$48,407
10	Goldman Sachs & Co.	60	5.10%	\$47,696
11	Citigroup	95	5.00%	\$46,754
12	UBS	74	4.30%	\$39,832

16. See *In re Moody's Corp. Sec. Litig.*, 599 F. Supp. 2d 493, 500 (S.D.N.Y. 2009) ("By 2006, . . . structured finance accounted for 54.2% of . . . [Moody's] revenue" from its ratings business).

17. See Ferrell et al., *supra* note 10, at 81.

As the above Table Two shows, the top six firms controlled over 50% of this market, and the top dozen over 80%. Even the smallest of these—the twelfth largest firm—had a 4.3% market share. In other words, that client alone has over four times the business (and the leverage) that Exxon had in our earlier hypothetical as the largest corporate bond issuer.

Now, you may be asking yourself: “What does this all have to do with ethics?” The relationship is simple: the professional independence of the agent or of the gatekeeper is going to be under much greater stress once we have a concentrated market in which each customer can credibly threaten to take its business elsewhere.

Indeed, customers did start threatening to take their business elsewhere. For years, the ratings market was dominated by a duopoly—Moody’s and Standard & Poor—and the normal practice was always that the issuer had to get two ratings. Hence, you really had to go to both of them. That immunized them from pressure. They could act as they thought best and protect their reputational capital.

However, around 2000—just at the beginning of the relevant time period—a French firm acquired Fitch Ratings, decided to expand it, and quickly made it a major player in the industry. It made a series of acquisitions, buying up some smaller ratings firms, and quickly Fitch grew in market share.¹⁸

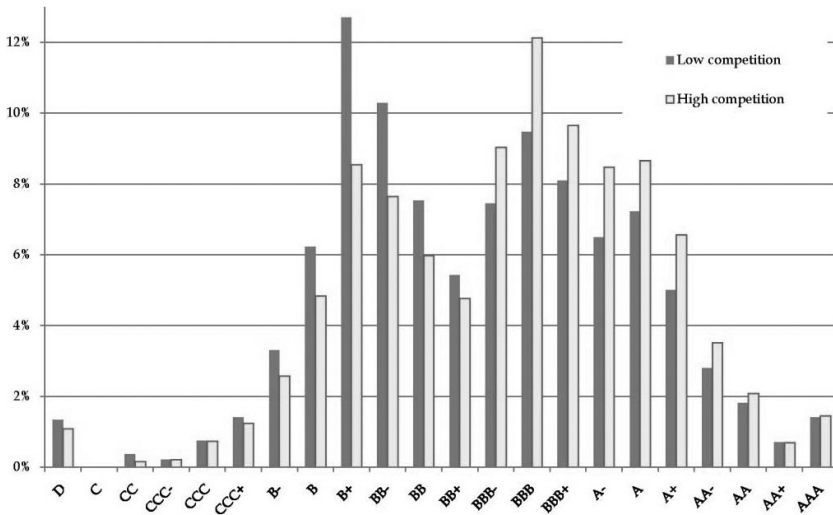
By the time we get into the real problematic period—2005 to 2006—Fitch is accounting for 40 to 45 percent of all ratings.¹⁹ That meant that the clients of Moody’s and S&P realistically could go elsewhere. Normally, we value competition and believe it makes markets work. But in terms of the market for gatekeepers, competition can be a strong corrosive force that can undercut professional independence.

Academics have begun to investigate this relationship between competition and professional independence. Set forth below is a chart showing how ratings inflated under the pressure of competition among ratings agencies:

18. For a general background and a description of the changes in the competitive position of the credit ratings firms, see Bo Becker & Todd T. Milbourn, *Reputation and Competition: Evidence From the Credit Rating Industry*, 4–5, 24, (Harv. Bus. Sch. Fin. Working Paper No. 09-051, 2008), available at <http://ssrn.com/abstract=1278150>.

19. *Id.* at 25.

TABLE 3



To understand this chart, you need to know that BBB minus is the lowest investment-grade rating. Ratings below this grade are considered speculative or, if you prefer, a “junk bond.” Ratings from BBB minus and above are considered investment-grade ratings. Many institutions are legally bound to buy only investment-grade bonds; thus, they must obtain an investment-grade rating from an NRSRO credit rating agency.

As the foregoing chart shows, high competition appears to have produced a much higher percentage of investment-grade ratings. Indeed, all investment-grade ratings (i.e., those above BBB-) increased under high competition.

Conversely, if we focus on the junk scores (i.e., those below BBB-), the same chart again shows that lower ratings were also more prevalent under low competition. In sum, low competition yields more non-investment-grade speculative ratings but fewer investment-grade ratings. In turn, high competition produces a higher ratio of investment-grade to non-investment-grade ratings.

Permit me a possibly irrelevant and certainly irreverent aside here: I believe I have witnessed over a career this same process in academia. As student teaching reviews became more common (and possibly as student input received more weight in faculty tenure and promotion reviews), grade inflation also resulted. In both worlds, those subject to increased scrutiny raised their grades to please those who had influence over them.

ACT THREE

Now, let me move next to my third chapter: the consequences of deregulation and the collapse of the investment banks. The story so far has focused only on the rating agencies. But investment banks can also play a gatekeeping role. They are expected to screen and vet offerings. When things are working well, they do a pretty good job of it.

But the advent of structured finance changed their role as well. Now they become the principal, rather than the agent, because the investment bank is normally the promoter who markets these loan portfolios.

The relevant story begins in Europe in 2002, when the European Union adopted something called the Financial Conglomerate Directive.²⁰ This directive said exactly what the SEC has long wanted to say (but was denied the power to say): that in evaluating the solvency and capital adequacy of a regulated entity, such as a bank or a broker/dealer, the regulator had to consider the parent company as well.²¹

In short, the regulator has to review the parent company's financials and evaluate the conglomerate as a whole from a top-down perspective. European regulators feared—quite reasonably—that the parent company could take actions that would, in a crisis, jeopardize the solvency of the regulated entity, the bank or the broker/dealer.

That was the sort of regulation the SEC had long wanted the power to impose. Yet, the SEC has consistently been denied that power—particularly by Congress in 2000. This move by Europe in 2002 created something of a crisis for American financial institutions. Suddenly, this meant that all U.S. financial institutions that were operating in Paris or London were going to be examined for the first time from the top down. This was not so problematic for the commercial banks, but it was a major crisis for U.S. investment banks.

Why? Because the European Union's directive came with an escape clause. In essence, it said: If, however, the foreign entity is regulated under a functionally equivalent system of regulation, then it is immune from this regulatory edict, and you don't have to consider them; we'll rely on the foreign regulator so long as it's a similar system.²²

For commercial banks, this clause averted any crisis, because commercial banks are regulated by the Federal Reserve, which does look at them from the top down (i.e., from the parent company down to the regulated entity, the banking subsidiary). Think of Citigroup as the parent and Cit-

20. Council Directive 2002/87, 2003 O.J. (L 35) 1 (EC).

21. For an overview of this directive and the response to it, see Jorge E. Vinuales, *The International Regulation of Financial Conglomerates: A Case-Study of Equivalence as an Approach to Financial Integration*, 37 CAL. W. INT'L L.J., 1, 2 (2006).

22. *Id.* at 20.

icorp, the bank, as the subsidiary. While the Federal Reserve looks at everything, the SEC was only able to look at the broker/dealer subsidiary.

In response to the E.U. directive, American investment banks immediately rushed to the SEC to say—of all things—“Regulate us, please, regulate us. We need to have a ‘functionally similar’ system of regulation so we’ll be exempt from the prying eyes of those European regulators.”²³

Seeing an opportunity, the SEC agreed to establish something called the Consolidated Supervised Entity Program (or “CSE”), which applied to only five investment banks, the five largest American investment banks.²⁴ Everyone knows their names: Goldman Sachs, Morgan Stanley, Merrill Lynch, Lehman Brothers and Bear Stearns—Bear Stearns, just barely.

Those five entered into this Consolidated Supervised Entity program, and the trade-off was that the SEC would examine their financial statements from the parent company on down, looking at the whole group. However, in having their financial statements examined, they were allowed to opt in to Basel II criteria under which they were allowed to design their own credit model. Thus, in this new CSE program, the regulator would look at the bank’s own credit risk model, including the bank’s own evaluation of the riskiness of their assets, and then determine whether or not the models seemed prudent.

The SEC permitted these five firms to be exempted from the SEC’s traditional Net Capital Rule, which required specific ratios of debt to equity.²⁵ Instead, it let these five firms design their own individualized credit model, which it then appraised.

To implement this new system, the SEC assigned three staffers to each of these five CSE banks. Let me repeat that: they assigned *three* individuals,²⁶ probably younger staffers, as it was by no means the fastest ticket to the top in terms of a career path for an SEC staffer.

Those three people would then look at a model designed by all the financial analysts that a Merrill Lynch found it useful to employ. Potentially, the investment bank might use fifty economists, each with Ph.D.’s from MIT to design a credit model that enabled it to increase leverage (and hence short-term profits).

23. See Stephen Labaton, *Agency’s ’04 Rule Let Banks Pile Up New Debt*, N.Y. TIMES, Oct. 3, 2008, at A1 (describing major investment banks as having made an “urgent plea” to the SEC for an exemption in April 2004).

24. See Alternative Net Capital Requirements for Broker-Dealers That Are Part of Consolidated Supervised Entities, 69 Fed. Reg. 34,428 (June 21, 2004).

25. See Net Capital Requirements for Brokers or Dealers, 17 C.F.R. § 240.15c3-1 (2008).

26. OFFICE OF THE INSPECTOR GEN., U.S. SEC. AND EXCH. COMM’N, SEC’S OVERSIGHT OF BEAR STEARNS AND RELATED ENTITIES: THE CONSOLIDATED SUPERVISED ENTITY PROGRAM (REPORT NO. 446-A) 2 (2008).

It was, from the outset, a mismatch. Three young staffers against all the financial economists Merrill Lynch wished to use to design a model that would reach the conclusions that its CEO needed to reach.

What happened? Well, the SEC's Inspector General Report shows that in a very short period of time, 2006 to 2008, gross leverage went up at all of these banks significantly.²⁷ Each bank used a different model, but all of them increased their leverage under this new system to levels as high as a 33:1 gross leverage ratio.²⁸

Even this estimate probably understates the true leverage, because ratios work off the face of the financial statement. Thus, these ratios ignore the off-balance-sheet obligations, particularly something called "liquidity puts," which were obligations under which banks agree to buy back the loans they were selling to hedge funds if the loans lost liquidity. This ultimately proved to be the number one problem for Citigroup.

Why did leverage increase rapidly after 2000? Increased leverage is probably the quickest way for a financial institution to increase profitability, and thus market pressures pushed all of them towards increased leverage.

Structured finance, though, had a special characteristic. I pointed out to you earlier that in the field of structured finance, the three largest underwriters were three independent investment banks, Morgan Stanley, Lehman, and Bear Stearns. They are much, much smaller in terms of overall market capitalization than their commercial banks. These independent investment banks had a special problem. With the repeal of the Glass-Steagall Act in 1999, commercial banks were increasingly pushing the investment banks out of the traditional corporate bond underwriting business. Commercial banks were gaining a larger and larger share of the business.

Why? A very large commercial bank like Citigroup or J.P. Morgan could market itself to a large corporation and say, "Why play around with those little investment banks? We can give you everything you need with one stop shopping. We can give you long term loans; we can give you revolving credit agreements for short term capital. We can underwrite your bonds. We can market your notes. We can do it all at once. Come to us."

That synergy argument was working, and they were getting more of the business. The business model for investment banks had to respond, and investment banks saw their future in this new nimble field of asset-backed securitization, which was a field in which high intellectual creativity could be (and was) used. These were very bright people doing this, and they thought they could keep ahead of their commercial bank rivals because they believed they could innovate more quickly than anyone else.

As a result, they went hell for leather into asset-backed securitization where the profit margins were high and the risks were not clearly known.

27. *Id.* at 120.

28. *Id.* at 19.

To do so, they abandoned prudent diversification. Lehman, in particular, made a series of acquisitions of—and ended up operating—real estate companies.²⁹ To some degree, their motive may have been that they would be foreclosed from access to mortgages if the large commercial banks kept on buying the major California banks that made mortgage loans.

In combination then, the investment banks were motivated to raise their leverage levels and abandon diversification at the same time as the SEC was inclined to pursue deregulation. The combination was deadly. All five of the CSE firms either failed, were forced into shotgun mergers with larger commercial banks, or—in the case of Goldman and Morgan Stanley—survived but were converted by edict of the government into bank holding companies.

So, what are the lessons of all this? First of all, financial institutions have greater fragility than they themselves recognized. They face a fundamental mismatch of assets and liabilities. Their assets are often long-term and illiquid, whereas their liabilities are often short-term, commercial paper and the like. That is problem one.

Problem two: from the 1990s on, mortgage lending banks had clearly shifted to a different business model—call it the “originate and distribute” business model. Under this model, a financial institution sees itself as the originator, and then, rather than holding assets for their duration, it sells them off to the marketplace. That practice can undercut the incentive to screen, to demand creditworthy borrowers. Ultimately, it can lead to the moral hazard problem earlier described.

Now, let’s return to gatekeepers. My generalization here is that competition is good, except when it is bad. Yes, we want competition, but competition among gatekeepers can produce inflated results, as we earlier saw in the Becker & Milbourn study.³⁰ Similarly, competition among investment banks can lead to excessive leverage and inadequate diversification.

Let me quote here what will undoubtedly be the most famous line to come out of this whole episode. These are the immortal words of Citigroup CEO Charles Prince in late 2007, when, with the crisis already cresting, he gave an interview to the *Financial Times*. He was asked in effect: “Aren’t you getting in over your head with all of these CDO investments and their problems of illiquidity?” He answered them: “When the music stops in terms of liquidity, things will get complicated, but as long as the music is playing, you’ve got to get up and dance. We’re still dancing.”³¹ Nine months later, he was fired. Yet, this is the statement of someone who real-

29. See Terry Pristin, *Risky Real Estate Deals Helped Doom Lehman*, N.Y. TIMES, Sept. 17, 2008, at C6 (discussing Lehman’s real estate acquisitions).

30. See Becker & Milbourn, *supra* note 18.

31. See Michiyo Nakamoto & David Wighton, *Bullish Citigroup is ‘Still Dancing’ to the Beat of the Buy-Out Boom*, FINANCIAL TIMES, July 10, 2007, http://www.ft.com/cms/s/0/5cefc794-2e7d-11dc-821c-0000779fd2ac.html?nclick_check=1.

izes that problems are on the horizon and things are going to get complicated. He sees the risks, but the fear of falling even slightly behind the competition is more compelling. Collectively, other banks behaved the same, and the result was a break-neck race over the cliff of financial solvency.

Possibly, a contributing cause here were executive compensation formulas, which in the world of investment banking were extraordinarily short-term oriented. In investment banking, you eat what you kill in terms of bonuses based on the year's deals that close. If you are compensated for what closes this year, you tend to worry less about whether this deal will fail in five years. Indeed, many of these deals failed in a good deal less than five years.

Next, reputational capital tends to be a weak force during times of market stress. Reputational capital is what should in principle motivate credit rating agencies to be serious, sober, and diligent, but it is not as effective when there is competition and market stress. The reputations that count are not those that they have with investors, but those that they have with clients.

What then should be the policy response? Above all, this crisis shows the need for one systematic risk regulator. Now, what is a systematic risk regulator?

We do not have one in the United States. Instead, we have a Balkanized structure of financial regulation. A different regulator regulates each class of financial institutions in the United States. At the state level, we have regulators for insurance companies and state chartered banks. At the federal level, we have different regulators for commercial banks, savings banks, investment banks and broker/dealers. Meanwhile, no one truly regulates hedge funds. Each one is different, and predictably, the intensity of supervision differs among them.

The net result is regulatory arbitrage. By regulatory arbitrage, I mean that a rational entity will design itself to fall within whichever of these various classes is the least regulated. It is no surprise that AIG, now world famous, managed to issue several hundred billion dollars of credit default swaps from an unregulated, non-insurance subsidiary that was based in London.

In part, they could do that because the state of New York was the only regulator that had substantial jurisdiction over them. Even it only had jurisdiction over AIG's insurance business, and the key subsidiary was a non-insurance subsidiary of the non-insurance holding company. No one regulated it, and on its own—with no one really looking—it issued over \$200 billion of credit default swaps.

What must be done? We now know (perhaps sadly) that if you are too big to fail, the government will step in, because society cannot accept the

catastrophe that might follow. However, if you are too big to fail, you have to be regulated so that you don't fail. In theory, banks were always regulated in this fashion, but a shadow banking system has arisen that is partially outside the regulatory umbrella.

So, what would a systemic risk regulator do? At a minimum, it would have authority to restrict leverage and regulate capital adequacy at all financial institutions, whether they are hedge funds, insurance companies, or some new entity that we have yet to imagine. It might also have the authority to restrict, or at least regulate, the trading in new financial products, including credit default swaps.

The goal here is to focus on systemic risk, not on the individual institution, but on whether what it was doing could have a destabilizing impact on the economy. Systemic risk is essentially the risk of linked financial collapses, in which the first failure causes the second, and so on—much like a cascade of falling dominos.

A first step towards reducing systemic risk would be to mandate the use of clearinghouses, which is something the Federal Reserve has already been trying to do. This would make them mandatory, rather than simply encouraged. Similarly, such a regulator might be able to mandate write-downs for risky classes of assets. For example, if there was a real estate bubble, it could start the write-down process as soon as it realized the danger of overvaluation. The goal here is a countercyclical policy, rather than a procyclical policy that responds only after the market starts to collapse. The key idea here is that a systemic risk regulator should be able to adopt counter-cycleable policies rather than after-the-fact procycleable policies. But in truth, this is easier said than done.

By giving the systemic risk regulator broad jurisdiction, we avoid the problem of regulatory arbitrage. But there remains the very real danger of regulatory capture. It too might be minimized by the provision of broader authority. When you only regulate only one small class of institutions, the likelihood that you will be captured by the relevant industry grows significantly. That is the standard critique of an agency such as the CFTC, which regulates trading in futures.

The re-design of financial regulation in the United States poses some very basic issues. Around the world, there are today two basic models. First, there is the British model of a centralized universal regulator. That is the British Financial Services Authority. It has authority over all kinds of institutions; it is both a banking regulator and a securities regulator.

The alternative model is what is called a "Twin Peaks" model. Under a Twin Peaks model you have a systemic risk regulator and you also have a consumer/investor protection agency.

Examples of this are Australia and the Netherlands. The United States, right now, has about a "Himalayan" model because we have different regu-

latory agencies for every class of institution. The result is a Balkanized structure.

Clearly, there needs to be some consolidation. However, I would tell you the most important design issue for the near future involves the choice between a universal systemic risk regulator and a Twin Peaks model.

Why do I care about this difference? Why do I favor the model that I call the Twin Peaks model? Let me assert, based on some experience, that the culture of securities regulators and the culture of banking regulators are fundamentally different. Their experiences are different, what they fear is different, and their resulting priorities are different.

Securities regulators around the world favor disclosure and transparency as a matter of first principles. Around the world, banking regulators fear one thing above all others: the run on the bank. Thus, their policies strive to reduce creating any fear of insolvency that might harm the reputation of a financial institution.

Toward this end, they seek to assure that investors never panic. How do you keep investors from panicking? Sometimes, you sweep problems under the rug. That way, they should never have a reason to panic. If we told them the truth, they might get scared and demand their money back.

Where does this analysis lead? Essentially, a universal regulator faces a built-in tension: does it disclose adverse information to investors to assure transparency or does it tend to suppress adverse information about financial institutions to avert panic? That tension scares me, because when you put all power and authority into a single agency, there are going to be low-visibility or invisible trade-offs. Conflicts inevitably will arise between protecting investors with full disclosure and protecting bank solvency by suppressing some of the uglier facts.

For these reasons, the better policy answer is the Twin Peaks model that gives both of its agencies co-equal authority, with neither one having a veto power over the other. To be sure, there still will be political trade-offs and tensions. Indeed, these tensions should be resolved within the political process, and there should be accountability for decisions. If the President wants to go one way or the other, he largely can. However, the public should know what is happening, because it will better understand what the full consequences are.

These tensions are already surfacing today. One example involves mark-to-market accounting. You will find that securities regulators generally want mark-to-market accounting. Banking regulators are much more dubious; they see mark-to-market as one of the fundamental causes of what they argue is a pro-cyclical policy that injures banks.

Beyond the re-design of our regulatory system, the next priority for Congress and the regulatory agencies should be the need to restore due diligence to the marketing and underwriting of securities. Once due dili-

gence goes, once no one perceives a need to closely examine the product on both the “buy” and “sell” sides, then problems necessarily follow.

In the years before the financial collapse of 2008, due diligence was gradually abandoned. Deregulation was one reason for its demise, and another probably was the uniquely short-term executive compensation policies that we have today in the United States. Executives knew that deals had to close for them to earn their bonuses and due diligence became for some firms simply an impediment to their closing.

Executives motivated by short-term “eat what you kill” compensation formulas did not worry about whether, three years later, their firms would develop acute indigestion from the toxic deals that they had swallowed whole years earlier.

Ultimately, due diligence connects with legal ethics. When due diligence disappears, public companies are willfully flying blind, and predictably there will be an eventual crash.