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## CHAPTER ONE

# Meltdown in the Markets: Systemic Risk

**T**HE ONE THING EVERYONE should know when trying to understand Economics is that the economy is about connections; this is all the more the case with respect to the financial system at the core of the economy. This seems both simplistic and obvious, but it is often overlooked as analysts, academics, and commentators agonize over individual firms—the trees—rather than how these firms are connected to and dependent on each other—the forest. An economy is not the sum total of its parts, but rather the sum total of the interactions among the parts.

This lesson was relearned as we watched the financial system crumble before our eyes. We were all busy watching the individual firms and not looking at how the interactions could turn the system upside down. The notion that one or two failures could endanger the whole system is known as *systemic risk*.

## HOW SYSTEMIC RISK WORKS

The whole idea behind an institution being too big to fail is that its collapse would lead to the collapse of other firms (what has been called *micro* systemic risk), or of virtually the entire financial system (*macro* systemic risk). In connection with the financial crisis, the term *systemic risk* has been bandied about rather widely, and in policy debates the concept is often swallowed whole without substantial critical thought. This is troubling, given that the most important and wide-ranging regulatory reform proposals have been premised on the notion of systemic risk.

So, exactly how does the collapse of one firm risk the collapse of others? To understand this, it is important to understand how big firms operate and fund themselves, and how the markets they engage in lead them to be more, or less, deeply entangled with other firms large and small. It is also important to understand the importance of the most elusive and difficult-to-price commodity in the market: confidence.

### Day-to-Day Funding

The collapse of Bear Stearns provides an instructive example of how firms fund their operations. The important point to understand is that, although they are competitors, they fund each other. This is one of the main reasons why they are so exposed to each other and why it is as important to see the connections in the financial system as it is to see the individual firms.

The fact that financial institutions fund each other is logical and perhaps inevitable. They are not in the business of keeping money hanging around in vaults doing nothing, so they like to keep it invested. But they don't necessarily want to tie up their spare cash for long periods of time, and so they lend it out for periods as short as overnight. They will make a far smaller interest rate than if they had loaned it out for a year or more, but when you are talking hundreds of millions or even billions of dollars, a small interest rate still means a nice little pile of cash; by loaning the money out for a short period of time the firm retains the flexibility to deploy the money elsewhere as soon as the opportunity arises. This is a far more efficient use of the money than leaving it uninvested.

On the other side of the transaction are firms that borrow money over a short duration to avoid long-term commitments that reduce their flexibility. When they borrow in this way, they do so by pledging securities or other collateral they don't need in the short term.

This type of overnight arrangement is known as a *repurchase agreement* or *repo*. The advantage of overnight repo financing is that it gives both sides the flexibility of short-term commitments and still allows the efficient use of otherwise idle funds and securities. The disadvantage is that it results in a financial system that needs to refinance itself every day. As long as things go well, or even reasonably well, there is no problem. There is very little credit risk (risk that the money will not be repaid) since the securities held as collateral are being held only over a very short term—how likely, after all, is it that the collateral will fail in one day?

### How a Problem Goes Systemic

But things can go wrong, as they did during the financial crisis that led to the Great Recession. Some of the assets held at Bear Stearns, for instance, were linked to mortgage-backed securities or other difficult-to-price assets. When confidence drops on securities like these, it can fall right off the map and take their market price with it. No one wants to be holding the bomb when it goes off, and so the pressure to sell the securities turns into pressure to dump them and a rush for the exits. And since no one is committed for long periods of time, they can rush to the exits at the first sign of a panic. Thus, the trigger for a systemic problem is the uncertainty that arises as the result of one firm's collapse, not merely the financial difficulties of that firm itself. As one commentator put it, "Runs occur on solvent banks during panics because there is insufficient information in the public domain . . . to discriminate between the strong and the weak."<sup>1</sup>

A decline based on a loss of confidence isn't usually a straight line, but looks much like a downward-sloping curve that gets steeper as it goes. This reflects panic. The risk of fluctuations in the overnight price of an asset used as collateral in the repo market is normally accounted for by requiring slightly higher value of the collateral than the value of the money loaned. But steep drops are a different matter, and if a large proportion of a firm's ready assets are of questionable value, it will face a situation where some firms will ask ever-increasing amounts of collateral for each dollar loaned (effectively anticipating a larger and larger drop in the value of the collateral) or simply refuse to engage in overnight repos with that firm. The latter makes a lot of sense, since there are plenty of other firms to do business with instead. The failing firm finds that it has to pay higher and higher interest rates and post more and more collateral to

<sup>1</sup> Christopher T. Mahoney, "Market Discipline Is Not the Answer," *Barron's*, November 30, 2009.

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entice other firms to keep doing business with it—just as any individual with credit problems must do. This reinforces the vicious downward spiral that could ultimately lead to collapse.

#### *“At the Mercy of Rumors”*

In the uncertain environment that builds around the potential failure of a big financial institution, rumors start to swirl. In the eyes of many, the rumors are what cause a crisis. In December 2008, nine months after the implosion of Bear Stearns, its former Chairman Ace Greenberg said in an interview that the investment banking model is now dead, that “that model just doesn’t work because it’s at the mercy of rumors,”<sup>2</sup> and later added that

a rumor can put any of these firms at peril. . . . (Even Goldman Sachs and Merrill Lynch) had to convert over the weekend to banks, had to have infusions of capital because they couldn’t withstand the self-fulfilling prophecies of the rumors.<sup>3</sup>

Bank runs and rumors—underlying it all is the crucial, though somewhat slippery, issue of confidence. Once a firm’s ability to raise money and to meet its obligations is questioned, its entire business can seize up almost literally overnight. The downward spiral picks up speed when those responsible for assessing the firm’s value or its ability to pay its debts—research analysts and credit rating agencies, respectively—downgrade the firm’s stock and credit ratings. Doing so may be an entirely accurate reflection of the state of things: Counterparties are reducing overnight funding to the failing firm or demanding increased collateral, and so the firm’s ability to meet its obligations is in fact shrinking. But when the downgrades are announced, the failing firm is hit with a double whammy. First, the downgrade lends an air of objective confirmation that the firm is indeed having liquidity problems and gives thus credence to the rumors. Second, the firm’s problems are no longer merely a matter of rumor control and market psychology, since many of its counterparties’ risk management controls prohibit or restrict dealing with a counterparty that has a “speculative” (junk) bond status. They have no choice but to pull away from the failing firm and its debt, given the legal covenants governing their investment practices in order to protect them. These measures have the ironic

<sup>2</sup> Elizabeth Hester and Peter Cook, “Greenberg Says Death of Bear, Lehman Means Wall Street Finished,” Bloomberg.com, December 9, 2008.

<sup>3</sup> Interview, *Frontline*, “Inside the Meltdown,” PBS, February 17, 2009, transcript available at [www.pbs.org/wgbh/pages/frontline/meltdown/interviews/greenberg.html](http://www.pbs.org/wgbh/pages/frontline/meltdown/interviews/greenberg.html).

unintended consequence of spreading the panic, and, as was the case with Bear Stearns, a rating agency downgrade can easily turn into the tipping point from which there is no return.

One of the lessons of the financial crisis is that avoiding this tipping point is crucially important.

This is how a firm can find itself falling from the top of the heap to the bottom of the pile with dizzying speed. Still, in many cases the problem corrects itself eventually when an investor with a higher risk tolerance sees the value of the collateral as undervalued, or the higher interest rates extorted from the failing firm as a good investment. The market creates a floor at which point investors come in, and the market stabilizes. Of course, if all else fails, the government could step in and play this supporting role—in other words, give a bailout. Either way, once the market sees that the firm is not on the verge of collapsing overnight, the process tends to reverse slowly. But in rare cases, the uncertainty as to the value of the assets prevents the floor from being created, and the firm goes *poof*.

Discussions among policymakers regarding systemic risk have focused largely on one factor, and that is the size of the firm. A big firm tends to owe big debts to a lot of other firms, so undoubtedly the failure of a large institution is likely to cause other firms to fail. But “big” is merely shorthand for a number of factors that are really more important, and that happen to be common among big firms. The better notion is captured in the term used in recent legislation, *systemically important*. This term pulls off the feat of being ambiguous in a way that only bureaucratic terms can be, and at the same time usefully capturing the concepts that make a firm a potential threat to the financial system.

Many firms are important to the system but are not big. Stock exchanges, the clearing houses that administer and settle the trades, the rating agencies, and firms that are small but hold an important segment of an important market (such as AIG and its dominance in credit default swaps) are examples.

It is important to know why a particular firm is important because this should help determine which tools would be used in case the firm finds itself in crisis. The potential failure of the Depository Trust Clearing Corporation (DTCC), for example, would have severe consequences for the markets but such a failure is more likely to be technological in nature than a matter of credit and liquidity, since DTCC does not trade or invest. It could be argued that the failure of the rating agencies had already occurred when they failed to perform adequately their role in assessing the risks inherent in various complex structured instruments. In neither of these two examples would a financial intervention have helped. So, while it might make sense to increase capital

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cushions on large banks to help ensure that they have the cash on hand to meet their debts in time of crisis, capital standards are mostly irrelevant to certain other systematically important institutions. An obsessive focus on “bigness” as a proxy for systemic importance would leave the system vulnerable to other latent threats to the system.

### *Collateral Damage*

Another factor that can turn a firm from big money-maker to big money-loser is leverage. *Leverage* simply means borrowing money to invest, on the assumption that you will make more money from the investment than you will owe on the loan. A firm's leverage is customarily expressed as a ratio of borrowed money to hard assets (that is, loan to collateral). It makes winning bets into huge winning bets, but can work just as powerfully in the other direction in case of a loss. Of course, losses happen all the time and so a mechanism is built into the process in order to protect the parties loaning the money. This is the *margin call*. A margin call requires the borrowing party to pony up more cash or other collateral to back up the loan if the investment bought with the borrowed money has dropped significantly in value (the investment is the initial collateral).

So now view the Bear Stearns collapse from the point of view of the rest of the market. For some, the use of risky and difficult-to-price toxic assets will mean that you demand higher collateral, or that you simply cease to loan money to Bear Stearns at all. Others may not have accepted toxic assets as collateral, but they start to feel exposed nonetheless because the firm is so highly leveraged (say \$30 of loans for every \$1 of collateral), they fear the firm will head for bankruptcy, and all forms of collateral will be at risk.

When a run like this starts, the impact is not limited to the repo market. The repo market is used to fund the day-to-day requirements to buy and sell shares for customers, to meet mutual fund or hedge fund redemption, and to settle derivatives and other trades done for its own account. If the firm's ability to raise cash in the repo market is constricted, so are many of its other activities that touch other firms and investors. Even those firms that do not loan money to the failing firm in the repo market may well be reluctant to engage in any business at all with it, fearing that the firm will not be able to meet its obligations. It's a kind of institutional run on the bank, where the other firms may know that it is bad for the financial system for everyone to pull out and it may not even be warranted, but no one wants to be the last one left when all the money has been taken. The people at the other firms making the decision

as to whether they should continue doing business with the failing firm owe no duty to the failing firm and not even an explicit duty to “the system.” Their duty is to their own firm and so it is easy to see why the reluctance to deal would grow.

### ***Money Market Funds: From Safe Harbor to Live Wire***

Beyond repo agreements, financial institutions need a stable place to keep their cash that is not invested in the market. They don’t open a checking account at the local bank, however. In order to achieve a slightly higher interest rate than they could with a normal bank account, they keep their funds in what is called a *money market fund* (as do other big institutions). The attraction of these funds is that they have virtually the same liquidity as a bank account (meaning immediate access to your money) while paying a higher interest rate. Money market funds have become the principal means by which large institutions hold their ready cash, and its importance is reflected in the fact that some \$3.5 trillion moves through this market every business day.

Some of these funds are available to retail investors and some only to institutions, but they share essentially the same characteristics: safety of principal, high liquidity, and higher interest rates. Retail money market funds should not be confused with money market *accounts* at banks, which are simply a way of paying interest on what would otherwise be a checking account (by law, actual checking accounts are not permitted to pay interest). These accounts are general obligations of the bank and as such are not backed by assets in the way that a money market fund is.

SEC regulations restrict what a money market fund may invest in. These restrictions specify that the investment must meet specific standards with respect to quality (the law requires that the fund invest only in something that is deemed to present “minimal risk,” as evidenced by its credit rating among other things), and maturity (13 months or less, with a weighted average of 90 days or less). The funds must also diversify their holdings, with no more than 5 percent of the holdings having been issued from any single issuer. The two exceptions to the 5 percent concentration rule are government securities and, as fate would have it, repo agreements. Thus, money market funds had no statutory limit to prevent them from loading up on repo agreements from one or two investment banks. Since money market funds are one of the main places for financial firms to place their funds, their ability to load up on repo agreements from a small number of banks is one of the main mechanisms of interdependency in the financial industry. It is also one of the least transparent,

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since it is hard to know in which funds a particular firm is holding its cash, and what those funds are buying.

Money market funds have been the norm for decades as a means through which financial institutions and other large firms have managed their cash. This phenomenon was driven in good part by their reputation as a safe place to put funds. They are constructed to ensure that the share price stays stable at \$1 per share: If you invest \$100,000, you know you will get back \$100,000 when you need it, plus whatever interest has accrued. If the price were to fall below a dollar per share—"breaking the buck," in financial parlance—the depositor would lose some of its invested principle. For this reason, breaking the buck was the ultimate taboo and it had happened only once since the early 1970s—until Lehman Brothers went belly-up.

What happened then illustrates why and how these funds can transmit and amplify financial shock and turn one firm's failure into a potential economic disaster. The restrictions on the investments available to money market funds, meant to ensure that the funds are stable and conservative, induce them to invest in highly rated repo agreements, and since the 5 percent rule does not apply to repos a fund can become disproportionately exposed to the repos of a single financial institution. The fund has an incentive to invest in particular in the repos of the institution paying the highest interest, and that is likely to be the one that is weakest. So, when things start to go wrong they can go very wrong, very quickly. If a failing firm's credit rating is reduced from investment grade to junk—often falling several levels at once—it is difficult to justify calling the debt a "minimal risk," and so it is no longer eligible to be held by money market funds. And things can get worse. When Lehman Brothers filed for bankruptcy on September 15, 2008, its repo agreements and other debts were essentially worthless and had to be written down to zero by the funds holding them. Among those holding a large proportion of Lehman debt was Reserve Primary Fund, the oldest money market fund in the United States and at \$62 billion one of the largest. Writing down such a large chunk of its assets meant that its net asset value (price) fell below \$1 per share. Now, Lehman Brothers' problem became a problem for any firm that held its money in Reserve Primary Fund.

Moreover, since no one knew which other money market funds held Lehman repos, it was anyone's guess whether another fund would break the buck, by how much, or when. The prudent thing for a company treasurer to do in such a situation is to start pulling the company's money out of money market funds at least until the situation becomes clear. Indeed, by the end of the week more than \$200 billion had been withdrawn from money market



funds—some \$40 billion more than the estimated cost of the entire savings and loan crisis.<sup>4</sup> If enough companies pull out of a fund, it has to sell its holdings in order to pay cash to the customers pulling their funds out, and this could create a downward spiral on the assets of that fund (causing it to break the buck). This can also cause a run on the assets being sold by the failing fund into the market, and this in turn could cause the panic to spread to other funds holding the assets being dumped into the market at ever lower prices. In this scenario, money market funds become the conduit through which the crisis spreads far beyond those firms directly exposed to the failing bank's obligations. The analogy is no longer falling dominoes but a live wire that spreads the shock to all who touch it.

In the end, there was no run on the bank in money market funds, partly because the Treasury announced three days later that it would offer to insure money market funds to keep them from falling below \$1. Whether this intervention was appropriate will be the subject of debate for some time, but whatever prevented the panic from spreading was crucial to bringing the financial system back from the edge and avoiding a catastrophe of far greater proportions than the severe one we did endure. If the money market system had shut down, the entire financial industry would have had an immediate liquidity crisis and would have frozen in place, cutting off lending to the entire economy.

As scary as this near-miss was, it is not an indictment of the money market system as a way of funding the economy. Overnight lending and money market funding worked without a hitch day in and day out for decades and will continue to do so, most of the time. As long as events and circumstances stay in the fat, "normal" part of the bell curve everything works perfectly. Like so many other causes and effects of the financial crisis, the problem lies in ignoring the tails of the bell curve as if they never occur. The lesson is to recognize that systemic risk acts through panic and uncertainty, and that the key to avoiding future crises is to plan for measures that give comfort that it's safe to keep trading and investing even if one or more firms are failing.

## THE CASE FOR GOVERNMENT INTERVENTION

Clearly, one of the principal contributing factors of the financial crisis, and perhaps the main trigger of the systemic collapse, was the absolute dependence of the market on confidence, and the self-fulfilling nature of negative rumors

<sup>4</sup> "The Lehman Legacy: Catalyst of the Crisis," *Financial Times*, October 12, 2008.

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when a firm is already in a weakened and vulnerable condition. This leads some to the conclusion that a clear, even explicit, expectation of government support in such situations is critically important to avoid the rush for the exits that turns the problems of one firm into an economic crisis. This implies that some sort of formal government policy regarding support for failing systemically important firms, or at least a plan for the orderly resolution of a firm that will be allowed to fail, is not just appropriate but necessary. Bear Stearns Chairman Ace Greenberg made the point by comparing the vulnerability of investment banks, which did not have explicit government support, with commercial banks, which do:

(I)f a bank is solid, the Fed will just say, “The bank is solid; we’ll give them money to pay off the crazy people that are running on the bank.” If the bank isn’t solid, the Fed will say, “Let it go,” like they [did] in many instances in the past year. So there is security in being a bank.<sup>5</sup>

An established government process for supporting a failing institution or for ensuring its orderly resolution through bankruptcy makes sense for the simple reason that it addresses the real causes of systemic risk: uncertainty, lack of confidence, and panic. Having *no* such process is bad policy, and so any plan that seeks either to leave failing firms to the wolves, or to eliminate the problem by limiting the size of institutions, places the financial system in danger. Plan B should also include stiff sanctions against the individuals at the firm responsible for its predicament. The policy implications of government support are discussed in Chapter 15.

## WHY HASN'T THE SYSTEM COLLAPSED BEFORE?

Given the closely interconnected nature of the financial system, one might easily wonder why we did not have a huge financial collapse earlier, at least not since the 1930s. It almost seems inevitable that a bad day on the market for one firm, or the rumor of a bad day, would lead to financial Armageddon within days. So, why have we been so lucky? The answer is probably precisely that—we have been lucky—but there are two points worth raising.

<sup>5</sup> Interview, *Frontline*, “Inside the Meltdown,” PBS, February 17, 2009, transcript available at [www.pbs.org/wgbh/pages/frontline/meltdown/interviews/greenberg.html](http://www.pbs.org/wgbh/pages/frontline/meltdown/interviews/greenberg.html).

One is that the financial system has become more complex than it was 5, 10, or 25 years ago. It is complex in that there are more institutions with more points of connection with each other, whether as counterparties in loans and transactions or by investing in each others' commercial paper, swaps, and other securities. And the financial instruments that have been summoned into existence such as credit default swaps and collateralized debt obligations have made the connections more volatile and powerful. It is also complex because no one really sees all of the connections or the size of the exposures they create, and because they change from day to day (think of money market funds, for instance). At the same time, the number of connections and exposures has brought firms into closer proximity to each other. It used to be said that no actor was more than six degrees of separation from Kevin Bacon, but in the markets today it is likely that no firm is more than two or three degrees of separation away from any other firm. As a result, failure does not move linearly like a set of dominoes, but in all directions like a flu epidemic in a crowded city. This is a fundamental reason why the last financial crisis was different from the Savings and Loan crisis of the 1980s and 1990s. That crisis shut down nearly 750 savings and loan institutions, but the sector was not as intimately entangled with the rest of the financial system as were the investment banks of the recent crisis.

This opacity resulting from the complexity of the system means that uncertainty, fear, and rumor are part of the market. In earlier crises, it was indeed fear itself, or at least uncertainty, that was our greatest enemy. And like it or not, it has often been the government that has stepped in, directly or indirectly, to restore confidence and stop the panic. When the Long Term Capital hedge fund collapsed, threatening to take the big banks down with it, the government arranged a bailout of the fund, though it did so by using moral suasion to get the banks to fund the bailout themselves. And so the role of government intervention in its various forms should not be overlooked when considering why we had been lucky for so long.

The second point is that we will be unlucky again. The financial crisis has taught valuable lessons, but it was not The Crisis to End All Crises any more than the First World War was the War to End All Wars. We have learned of the need to view risk from a systemic point of view rather than on a firm-by-firm basis—but as we pulled away from the brink we quickly started to forget how close a near-death experience we had had, and this sense of denial may force us to miss important opportunities to reform elements of the system.

Even if we did learn all of the lessons, though, crises would still be inevitable. The system is already too complex to be fully understood and

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reliably monitored by people or by computer systems, and the resulting uncertainty and unpredictability make it inevitable that things will get ahead of us again. This is one of the more ironic features of post-crisis reform: We all seem to agree that some financial instruments were too complex to understand, but we have not recognized that this means the markets themselves have become too complex for market participants to understand. We still believe that markets can comprehend these steroid-enhanced instruments and correctly price them, and that the markets can therefore look after themselves. What is needed instead is a plan to prevent crises as best as possible and to mitigate them when they do occur, so the world is not dependent on a handful of bankers and bureaucrats, looking like Jack Bauer around hour number 22, working over a weekend to prevent a global catastrophe.

### CONCLUSION

The threat of systemic risk has gone from an academic hypothetical to the central theme of regulatory reform. It is now as likely to be heard from a politician on an afternoon cable show as from a professor at a conference. It has become a familiar topic because it has become a reality, and one that has had a direct effect on everyone. But the fact that it is commonly mentioned does not mean that it is commonly explained, and one can form an informed opinion of how it should be addressed without understanding how it works. This chapter has aimed to provide such an explanation, albeit a simplified one, so that the reader has a better picture of what exactly is meant by “systemic risk” when the term next pops up in the media or on the campaign trail. The most important things to remember are:

1. Regulation that focuses on the firm and ignores the system as a whole is doomed to fail.
2. The system is complex and therefore prone to uncertainty and rumor, especially when the financial environment moves into uncharted territory.
3. In a period of increased uncertainty, the general attitude toward risk can turn on a dime as individuals and firms become defensive, either by instinct or, once the tipping point has been achieved, by covenant, policy, or even law.
4. Unchecked uncertainty can build on itself and trigger panic, and so the government’s ability to intervene on behalf of a firm can help stem a systemic panic before it begins.

## EXAMPLE

### Bear Stearns and Systemic Risk

Like other investment banks, Bear Stearns was so profitable because it did not limit itself to its own money when it went to the market. It borrowed from other firms. When an investment bank invests borrows money in this way, it enters into an obligation with someone to pay the borrowed money back and it does so on two assumptions: (1) that it will make money on the investment and thus have money available for repayment of the loan when it is due, and (2) that not everyone will demand repayment of the bank's outstanding loans at the same time. If assumption number two holds, assumption number one does not need to hold all the time. There will be enough money at hand from the firm's existing capital, or the firm can borrow money to make good its payment.

The market for this kind of short-term financing—the "repo market"—is usually very liquid, meaning that there is plenty of money available and it is relatively cheap to borrow. This is because there is much less chance of a firm reneging on its obligation to pay a loan in the space of one day; it is a relatively low-risk way to get a little bit of interest on funds that would otherwise be earning nothing. This all works well, and has done so for decades, as long as overnight lending is considered low risk. And it needs to work well, since this overnight funding is how the big banks finance their operations.

When questions started to arise as to the creditworthiness of Bear Stearns, it became more and more difficult for the firm to borrow the billions of dollars it needed in the overnight market. If firms begin to question whether another firm can meet its obligations, they will either refuse to extend credit in the overnight market or demand more collateral for the funding. Since collateral can be pledged to only one counterparty at a time, a firm experiencing this vote of no confidence rapidly runs out of collateral, runs out of funding when it can no longer secure overnight loans, and ultimately goes bankrupt.

The ball started rolling against Bear Stearns when the housing market collapse led to the equally precipitous fall in the value of residential-mortgage-backed securities (RMBSs; see Chapter 4). Bear Stearns had borrowed heavily to invest in these securities and had done very well while the securities did well. The market knew that Bear Stearns was heavily invested in (that is, exposed to) the RMBS market. Of course, the market did not know exactly how exposed the firm was, and that uncertainty served only to exaggerate fears. As the value of these investments plummeted, so did the level of Bear Stearns' reserves (since the notional value of how much money

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the firm could raise by selling them—if it could sell them—was reduced). Their value as collateral in the overnight loan market also fell. As rumors spread about Bear Stearns' liquidity, a run on the bank began. No firm wanted to be left holding the bag as a creditor to Bear Stearns the morning they went bankrupt. Unlike depositors covered by FDIC insurance, creditors to Bear Stearns would have to wait in line, possibly for years, to see whether they would get repaid from any remaining assets. Given their fiduciary responsibility to their investors and their own personal interest in trading profitably, decision makers at many, then most, firms became reluctant to do business with Bear. Some reduced their exposure, some demanded more or better collateral, and some simply stopped doing business with them. Once this type of run on the bank begins, it is as difficult to stop as a runaway train. The market reached a tipping point when it collectively lost confidence in the firm and as a result funding vanished, literally overnight. Perhaps the final shove over the edge came from the rating agencies, who (rightly) downgraded the rating of Bear Stearns debt, including its repos, in recognition of its increasingly shaky position.

Of course, investment banks have been exposed to bad asset classes before without bringing the capital markets to the abyss. Why was this different? For one thing, few asset classes had been so highly inflated and had such a large market as RMBSs. For another, Bear Stearns not only created many of the RMBS securities that were sold into the system, but it also bought more and more of them. The decision to eat their own cooking turned out to be a fatal one when it became clear it had been cooking with toxic ingredients. ■

In the end, the fate of Bear Stearns and others shows that firms can grow to the point that they are systemically important because their size brings large exposures to a large number of firms in the financial system, making them too big to fail. But the financial system isn't vulnerable to these firms simply because they're big. Their size makes them too interconnected to fail, so that the opacity of the market means that no one knows who is exposed to the failing firm. A lack of confidence in one firm becomes a lack of confidence in all firms. Having institutions that are too big to fail may not sit well with everyone in the policy debate, but good policy would recognize this fact and consider why they pose a threat in the first place.