

# A Sociology of Bubbles

We have just lived through a classic market bubble. Asset prices climbed for many years, the good times rolled, and even those who know better participated in the irrational exuberance. Then the bubble burst: housing prices dropped, banks became insolvent, and the stock market lost half its value. Market liquidity disappeared almost overnight as lenders stopped lending.

BY BRUCE G. CARRUTHERS

The current economic crisis has created tremendous uncertainty and huge social problems. And at an individual level, many Americans are suffering from job loss, shrinking home equity, a decline in the value of their pensions, and a substantial loss of wealth.

Disaster like this prompts (or at least should) a collective reflection on how we got into this mess in the first place—in particular, why the institutional foundations for markets stopped working. Today, the “real economy” is doing very poorly, but the problems seem to have started in the sub-prime mortgage market within the U.S. financial sector.

Three aspects of this situation seem particularly amenable to sociological analysis: bond-rating agencies and how they “know” what they think they know, the social networks and personal connections that encourage “herding” among financial elites, and the political consequences of recent transformations in investment. Striking in all this is the contrast between the massive scale of the crisis in the global finance system and the concentrated, tight-knit nature of the financial community that helped create it.

## RATINGS, STRUCTURED FINANCE, AND (MISPLACED) TRUST

After bubbles burst, the recriminations usually begin. Much of the finger-pointing over the collapse of the real estate market has been directed at the rating agencies, the best-known being Moody's Investors Service and Standard & Poor's.

Traditionally, these private firms rated corporate and government bonds by assessing the credit-

worthiness of the borrower. Good ratings were much sought-after because highly rated borrowers paid less interest. Furthermore, various financial regulations used the ratings when telling banks how much capital they had to set aside to cover potential losses, or when constraining insurance companies not to make speculative investments.

Rating agencies were paid by the entity issuing the bonds (creating an obvious conflict of interest), and rating involved classification in terms of the well-known ordinal category system that ranged from “AAA” at the top down to “CA” at the bottom. The higher categories were known as “investment grade” and the lower categories as “junk.” For a long time, the rating agencies generally did a decent job of assessing long-term risks, showing that the chances of default on an “AAA” corporate bond was indeed small, whereas the likelihood of default on a junk bond was much higher. In supplying critical information, they became central players in the operation of modern credit markets.

As a consequence of the deregulation that began in the 1980s, however, the separation between commercial banks and investment banks broke down, U.S. finance changed, and along with it the role of the rating agencies. The 1990s especially saw the growth of “structured finance,” where instead of commercial banks taking deposits and making loans, and corporations issuing stocks or bonds to raise additional money, investment banks began to craft new kinds of financial instruments that attracted money from all over the world.

Structured finance became especially popular in the mortgage industry because it seemed to boost profits, steer more investment into housing, and increase homeownership. When applied to sub-

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prime mortgages, structured finance appeared to combine virtue with profitability because it helped people with otherwise poor credit records buy homes. It was also great business for the rating agencies because they earned a lot of money rating these new and complex instruments. But this system marked a significant departure from traditional home mortgages.

In the old days (recall Frank Capra's *It's a Wonderful Life*), mortgages were simple and boring. Bankers would make long-term loans to individuals they knew personally or knew a good deal about so those individuals could purchase homes. The house served as collateral for the loan, and the bank kept the loan on its books. The loans the bankers carried on their balance sheets were what's called "illiquid assets," basically because it was hard to pass on the idiosyncratic, local information on which the loan was based. If the individual successfully repaid the loan, the bank got a long-term income stream, paid in monthly installments.

But once bankers got the idea they could sell bundles of mortgages to investors, they shifted from being lenders to being originators. "Securitization" involved pooling thousands of mortgages together and then issuing securities against the cash flow that the mortgage payments collectively generated. Instead of holding a single illiquid home mortgage, the investor got a liquid and more diversified investment. A bank that made a mortgage loan could securitize it and sell it to an investor, and with its capital the bank could make another mortgage loan. Before long, the origination process itself became a separate business as mortgage brokers passed loans on to banks, and banks packaged, securitized, and passed them on to investors. Because originators no longer held on to their loans, they had less incentive to be diligent lenders. This is where the ratings agencies came into play in a whole new way.

Investors who purchased mortgage-backed securities, and more complicated instruments, didn't have the detailed local knowledge about borrowers that a local bank possessed. They had to depend on the rating agencies to tell them about the riskiness of a particular investment to provide credible knowledge about the value of new financial products.

The problem is, the ratings agencies didn't create new rating systems to assess the risks and uncertainties of these complicated new securities. They simply folded their assessment of these new products into the rating system they had created for the traditional bond market. This offered a familiar, standardized, and legitimate type of "knowledge"

about these new approaches to finance. However, it's now obvious the traditional rating system wasn't matched to the complexities of the new structured finance model.

## LEVELS OF COMPLEXITY AND UNCERTAINTY

A mortgage-backed security is a relatively simple device (a "pass through" security), but financial wizards added another layer of complication and turned mid-rated (say, "BAA1") mortgage-backed securities into collateralized debt obligations (CDOs) with different ratings (many that were higher, "AAA," and some that were lower, "B1"). This operation is hard to understand, and that's one reason why investors and rating agencies didn't really grasp the risks involved with structured finance.

Creating CDOs involved establishing separate layers, called "tranches," and giving them different priority claims over the cash flow the mortgage-backed securities generated. The senior tranche had the highest priority and so got paid first. Then the mezzanine tranche was paid. And only if it were fully satisfied did income go to the lowest tranche (the equity tranche).

To appreciate the importance of priority, imagine a restaurant in which the chef cooked an amount of food that varied daily. Each day a fixed number of tickets were sold to diners, with each ticket entitling the diner to a meal. The tickets were numbered 1 through 100, and diners were seated in the same order as their number (1 ate first, 2 ate second, and so on). Because the amount of food varied, sometimes the chef didn't cook enough to feed everyone. When she didn't, the diners seated last wouldn't get full meals. In fact, they might get nothing at all.

Diners with low-number tickets are like the senior tranche in a CDO: they have the highest priority and are the first to consume. Diners with very high numbers eat last and are at the highest risk of not getting enough food. They're like the equity tranche in a CDO. Exposure to the risk of hunger is concentrated among low-priority diners. Because high-priority tickets are less risky, they command a higher price. Were rating agencies advising diners, they would give their highest ratings to the low-number meal tickets.

Creating a CDO allowed banks to extract more highly rated securities from the same underlying pool of home mortgages. Higher ratings attracted more investment and allowed for higher fees. The alchemical transformation was most impressive

when financial wizards turned a pool of subprime mortgages into AAA-rated securities. In fact, some banks even applied the CDO operation (dividing cash flows into tranches with different priorities, and earmarking those cash flows to new securities) to CDOs themselves, creating the CDO<sup>2</sup>. Each additional layer of pooling, slicing, and dicing moved the investor farther away from the underlying assets and made the value of those assets increasingly harder to know.

More than ever investors depended on the rating agencies and their traditional rating system. By giving a “AAA” rating to a CDO or CDO<sup>2</sup>, raters implied that such an investment was similar to a AAA-rated corporate bond. Indeed, that was what helped lure investors into buying these otherwise opaque instruments, for the traditional rating system offered a familiar, standardized, and legitimate type of “knowledge.”

These new instruments helped boost the rating agencies’ revenues, but they posed a challenge. Unlike the “single-name” bonds Moody’s and Standard & Poor’s had been rating for a century, for CDOs there was no long-term baseline of data on which to estimate the probability of default. Wall Street firms hired lots of physicists and mathematicians to do their numbers, but the data they used covered a thin and atypical slice of time. Specifically, estimates of the probabilities of default for sub-prime mortgages were calculated over a period (roughly the last 10 years) of rising home prices. As soon as home prices leveled and then dropped, defaults in subprime mortgages quickly climbed to much higher levels than anyone expected on the basis of their models.


The misplaced confidence in subprime-based mortgage-backed securities and CDOs was akin to concluding a home is earthquake-proof because it has remained intact over a period in which there were no earthquakes. No one factored in the effect of declining home prices, particularly on variable-rate subprime mortgages with “teaser” interest rates that floated after two years. In addition, the default estimates for CDOs were very sensitive to estimation errors—a small mistake in calculating the probability of default for an underlying asset was amplified many-fold when estimating default probabilities for the CDO manufactured out of those assets. So if Moody’s got it wrong for subprime mortgages, they really got it wrong for CDOs. Their sophisticated quantitative models were indeed “rocket science,” but this created too much confidence in estimates that, in reality, weren’t very robust.

## ‘HERDING’ IN THE FINANCIAL COMMUNITY

Rating agencies are among the most high-profile culprits in the recent economic meltdown, but they’re only one part of a much broader financial community. And the strangest thing about the financial community is that it’s an actual community in the traditional, localized, sociological conception of the term.

Even at the global level, modern financial communities remain close-knit and geographically concentrated in small areas of New York City, London, and Tokyo. This concentration occurs despite the fact that electronic communications (think: Skype) can cheaply and instantaneously link people from around the world. Bankers and other financial elites are also embedded in multiple, interlocking networks, both informal and professional. (Indeed, the most formal and professional of these—the network of director “interlocks” where elites sit on each others’ boards and participate in shared governance—help explain why corporate policies and innovations typically spread so quickly and thoroughly.) High finance is, in short, a very small world.

Many people have wondered why many financial institutions and professionals did things that in retrospect seem so stupid. Why was there a lemming-like rush into exotic derivatives that even Wall Street rocket scientists couldn’t understand? These tight, close-knit communities and networks provide an important part of the answer.

Investment banks have well-defined peer groups, and if one bank is doing something that seems profitable, others will want to do it as well, and as soon as possible. Strong and dense interconnections within financial communities made it hard for even a skeptical financier to resist something when “everyone else” was doing  After all, the imperative to emulate others was what allowed these innovations to diffuse throughout the financial system so quickly in the first place. This is what sociologists sometimes call “herding.” This kind of situation offers advantages even when decisions turn out poorly: mistakes become forgivable if everyone else was doing the same thing.

What may have encouraged the stampede even further was the propensity for financial professionals and institutions to hire socially similar or “homophilous” individuals. For some decades, the financial sector of the U.S. economy has been growing in relative size. Since financial markets were

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deregulated, investment banks and other elite financial institutions offered increasingly lucrative and high-status jobs to the best-and-brightest, so they could be very picky about hiring. But by favoring some groups in recruitment and by putting a premium on picking “team players,” the financial community reproduced itself socially. When peers come from the same social background, with similar education, it’s easy to embrace the kind of “me too” attitude that produced a great deal of imitation. When coupled with collective overconfidence, the result was little short of disastrous.

We also see the same herd-like behavior in the collapse of the subprime mortgage market and in the decline of structured finance. Once the financial world soured on subprimes and CDOs, the rush to escape was even faster than the rush to get in. Now, no financial institution wants to lend to anyone else (with the notable exception of the U.S. Treasury), and everyone is hoarding their cash. Liquidity has dried up. And as firms’ financial situations worsen, they have to sell off assets, which drives down prices, which worsens their financial situation, and so on in a vicious downward circle.

Tight-knit communities may be interesting and harmless when located in small towns in southern France or midwest America. And herding can be quite entertaining to observe among peer-conscious teenagers. But the financial sector stuck together like a bunch of villagers, behaved like a crowd of college sophomores, and managed to endanger the world economy in the process.

### POLITICAL FALLOUT

This bubble, like previous bubbles (e.g., the Tulip Bubble, the South Sea Bubble), will pass. But it will have consequences—as legislators and policy-makers well know. Indeed, the political reactions to the financial crisis have been as interesting as the collapse itself.

The recent explosion in the number of individuals who participate in stock market investment and own shares in the market has played a crucial role here. Over the past 30 years, individual share ownership, college savings funds, ownership of mutual funds, and participation in 401(k) or 403(b) pension funds have increased substantially. This mass participation enabled the contemporary finance system and all its foibles to emerge and evolve, at least as long as times were good. At the same time, though, many people now perceive a direct link between their personal financial well-being and the performance of the stock market. Ordinary citizens are more

directly exposed to the vagaries of the stock market because more of them now have a stake.

Moreover, the growth of financial journalism makes it hard not to know about the market and news about those risks is now a daily staple. This all helped create a political incentive to react swiftly to the economic crisis. It has also led to some quite unexpected outcomes, like conservative Republicans in the White House spearheading a de facto nationalization of large portions of the banking system in the fall of 2008. (The recent collapse has also probably postponed, for at least a generation, the Republican dream of “privatizing” social security.)

The fact that today’s crash was preceded by a long period of growing economic inequality is also politically significant. Disparities in household incomes are at a level not seen since the end of the Roaring ’20s (or, more sobering, the start of the Great Depression). Political outrage against the huge bonuses paid to the financiers whose most recent accomplishment was to lose vast sums of money may signal the start of another populist moment in American politics.

Disaster creates a political opportunity not only for Congress to ritually disparage a few Wall Street plutocrats but also to rewrite the economic rules and more equitably distribute the economic surplus. The New Deal put in place institutions that led to long-term economic gains for middle and working class Americans, but those changes wouldn’t have been possible without the discrediting (perhaps temporary) of corporate and financial elites.

### NO MORE WONDERFUL LIFE

The bankers in *It’s a Wonderful Life* gave mortgages to people they knew well in a small, sleepy town. In the more recent past, mortgage tenders transformed themselves into high-powered sellers of exotic CDOs offered to a global market of investors. But even though the financial products left the small town world behind long ago, the financial sector continued to act a lot like a small, close-knit community where people looked and thought and acted like the close neighbors they could trust if only because things weren’t too complicated. The failure of the banking system and financial community to realize this mismatch has had nasty results on, unfortunately, a global scale.

At the very least, public oversight of the financial sector will be strengthened to compensate for the excesses of deregulation. However, future reforms will be also be shaped by the fact that the

U.S. financial system is globally connected, and policies that may seem attractive for domestic political reasons will be judged by the foreign investors who currently fund the U.S. government's deficits.

After the Asian financial crisis 10 years ago, East Asian leaders heard a lot of speeches from the International Monetary Fund and U.S. Treasury Department about the virtues of Anglo-Saxon capitalism. Clearly a lot has changed. We don't live in a wonderful-life world anymore.

### Recommended Resources

- Greta R. Krippner. "The Financialization of the American Economy," *Socio-Economic Review* (2005) 3: 173—208. An overview of the growing size and importance of the financial sector.
- Donald MacKenzie. *An Engine, Not a Camera: How Financial Models Shape Markets* (MIT Press, 2006). Illuminates the invention and diffusion of option-pricing models as a social process that helped remake financial markets.
- Louise Marie Roth. "The Social Psychology of Tokenism: Status and Homophily Processes on Wall Street," *Sociological Perspectives* (2004)

47(2): 189—214. Shows that despite its strong "bottom-line" orientation, Wall Street is not immune to various types of social preference.

Saskia Sassen. "The Embeddedness of Electronic Markets: The Case of Global Capital Markets," in *The Sociology of Financial Markets* (Oxford University Press, 2005). Explains why contemporary financial communities are still very much communities.

Timothy J. Sinclair. *The New Masters of Capital: American Bond Rating Agencies and the Politics of Creditworthiness* (Cornell University Press, 2005). One of the few social science books on credit rating agencies.

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