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Lost Trust

The Real Cause of the Financial Meltdown

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BRUCE YANDLE

The financial collapse of 2007–2009 is recognized as having caused one of the most serious U.S. recessions since the end of World War II. To put this economic disruption into perspective, however, it is not enough simply to plumb the depths of lost wealth in real estate or equity investments or the near or actual collapse of banks, insurance companies, auto companies, and city governments. Diffused by the high connectivity of a global economy, this disruption must also be considered by the speed with which the knowledge economy repriced assets worldwide, by the rapid pace of bankruptcies that followed, and by the degree to which governments and central banks opened the stops and started pumping money into wounded firms and institutions in an effort to reboot the world economy. Moreover, we should consider the extent to which private firms became quasi-publicly owned as once-celebrated free-market captains of industry and finance lined up for government bailouts. In addition to the obvious banks, insurance companies, brokerages, and financial institutions, the queue for bailout includes cities, counties, states, and even real estate developers and homebuilders.¹

If one could display credible charts comparing U.S. economic disruptions from the nineteenth century forward, the 2007–2009 collapse would not be likely to take the blue ribbon when measured in conventional terms, such as unemployment,

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1. On the latter two, see Timiraos 2008 and Wei and Hilsenrath 2008.

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business failures, and mortgage defaults.² But one trait might distinguish it from the rest. In this disruption, major elements of global credit markets were disrupted. For some major firms, credit markets stopped functioning. For example, French automotive giant Renault reported that money markets were frozen following the collapse of Lehman Brothers (Abboud and Gauthier-Villard 2009). The firm could not get access to the credit needed to function normally. Like many others, Renault had to slash operations to conserve cash. Municipalities, universities, and other borrowers accustomed to gaining access to cash through the municipal auction-rate market found the market completely closed. No transactions took place for weeks at a time.

The credit market pause of mid-September 2008 was not the result of bank runs triggered by central-bank credit cutbacks, where depositors and investors sought to get their money, as in 1933; nor did it evince a lack of liquidity, as in the panics of 1873, 1884, 1890, 1893, and 1907 (McDill and Sheehan 2006). The problem this time was lost trust. Indeed, the 2008 disruption is probably the only one that resulted from a sudden breakdown of assurance mechanisms—the generators of trust—rather than from action taken or not taken by misguided central bankers. Thorold Barker (2009) offers a timely comment along these lines, focusing on Wall Street executives' opportunistic behavior: "But beyond the power struggles, huge losses and increased regulation, there is a more fundamental threat to the industry: the destruction of trust."³

On September 17, 2008, following (1) the government takeover of AIG, the world's largest insurance company, (2) a government-arranged merger between a financially wounded Merrill Lynch and an assisted Bank of America, (3) government refusal to save Lehman Brothers, and (4) panic-inducing statements by top federal officials, individual agents worldwide lost trust in other economic agents and institutions ("The Doctor's Bill" 2008, 82). On September 18, banks began hoarding cash, corporations could no longer issue commercial paper except for much shorter terms and at much higher rates of interest, municipal-bond auction markets ceased to function, and London interbank lending collapsed. With heavy scrutiny focused on mortgage-backed and related assets, banks worldwide, by the International Monetary Fund's reckoning, saw the prospect of losing \$10.0 trillion in write-offs ("When

2. There are few ways to draw empirically based comparisons across time owing to the lack of comparable unemployment and other data. David Wheelock makes a comparison between the current housing-market collapse and related events that are similar to housing-related events in the Great Depression, noting that in January 1933 approximately one-half of all U.S. mortgages were in default, with new defaults being added at the rate of one thousand per day. Meanwhile, personal income fell 41 percent from the 1929 level (2008, 3). At this January 2009 writing, we are far from such depths.

3. For a scholarly treatment of the systematic inverse relationship between trust and regulation, see Aghion et al. 2009. Stan Liebowitz (2008) explains the mortgage-default crisis, an important part of the origins of the credit-market collapse, by focusing on the decline of mortgage-lending standards with government encouragement and the rise of adjustable rate mortgages, which of course relates to lower lending standards. Discussion of these mortgages in the press indicates that these loans often had subprime characteristics, which is to say that little or no attention was paid to the borrowers' creditworthiness and the implications of what would happen when the mortgages adjusted ("High Dive into the Toxic Pool" 2009; Simon 2009).

Fortune Frowned” 2008, 4). More than \$1.3 trillion in U.S.-originated mortgage-backed securities suddenly had uncertain value (“When Fortune Frowned” 2008, 4). Included in the mess were approximately 2,500 mortgage-based securities backed by subprime mortgages (Steidtmann 2008).

Along with write-downs and other financial losses, critical assurance mechanisms for the purpose of engendering trust across economic agents collapsed. Major institution failure prevailed. Trust, a most fragile human sentiment, had taken a walk.

In times of financial distress, central banks can provide liquidity and lay the groundwork for creating money. Governments can increase spending, reduce taxes, and purchase sick assets. Presidents can exhort, and captains of industry can capitulate. These costly actions can matter, and may indeed generate an economic response. But none of these actions, alone or together, can rekindle trust once the flame has flickered out.⁴

What caused assurance mechanisms to fail? What triggered lost trust? And how does the trigger point fit into the larger explanation of the credit collapse?

In this article, I describe the anatomy of the credit collapse and identify a series of necessary but not sufficient conditions for collapse to occur. As a result of politically expanded markets and other policies, three assurance mechanisms designed to buttress trust— independently determined credit ratings, international accounting standards, and credit-default swaps—became trust solvents that seriously undermined the basis for believing in the creditworthiness of individual agents and their institutions. As the solvents did their work, assurances were dissolved, trust evaporated, and financial markets ceased to function effectively. I begin with a discussion of how trust evolves in the formation of markets. Then I describe the institutional skeleton that accommodated the globally expanding U.S. subprime mortgage problem. Finally, I focus on the enabling agents of trust that connected global investors and creditors, whose demise ends the story.

Trust and Market Morality

Practically all market transactions depend on some degree of trust. Consider some simple actions. I fill the tank of my car with fluid from a pump at a 7-11 store I have never visited, trusting that the fluid passing through the hose is gasoline. I walk into a large TESCO superstore in Prague, a store and company I have never patronized, and buy a supply of groceries, including fresh fruit, soups, and coffee. I consume the items without a second’s concern about their safety. I e-mail my broker and tell him I want to buy a thousand shares of stock. He writes back and tells me that I must talk with him because for securities are based on voice transactions. My broker trusts my voice, but not my e-mail. Written contracts do not work effectively in this setting.

4. Robert J. Shiller (2009) discusses lost trust and what it will take to rekindle the flame in terms of massive government action. His very helpful analysis seems to focus more on the U.S. economy.

My broker is employed by a firm with a wonderful name and brand—at least such seems to be the case because, quite honestly, I have never checked the firm’s financial strength. Indeed, the whole idea of a firm and financial strength is an abstraction. Trust is somehow rooted in individuals. Within all these examples, truth telling and promise keeping are typical features of ordinary commercial life. The marketplace is infused with trust. How did this condition come into being?

F. A. Hayek (1991) tells a compelling story about rational thought, the extended order, and market morality. In his story, market morality—truth telling and promise keeping and other behavioral norms or rules—evolved over the millennia through market interaction. Hayek sees trust-forming rules as resting between instinct and reason in the spectrum of bases for human action. In his story, trust plays a vital role in small-group settings, where informal rules and traditions form a basis for trust. Trust generated by other devices then delimits the reach of an extended order that enables resource-conserving transactions and specialization to extend across space and time. Simply put, in the absence of market-generated, trust-forming devices, transacting parties cannot afford enough police and regulators to induce honest behavior among ordinary people. Trust and trust-assuring mechanisms can be low-cost substitutes for police, regulators, and court actions.

The formation of the law merchant in the early Middle Ages, a private law process that extends to modern times, is a case in point. The law merchant, a body of evolving judge-made law that formed in merchant-organized courts, was developed by adventurer merchants who traveled extensively from their home countries. “[G]eographic distances often prevented direct communication, let alone the building of strong personal bonds that would facilitate trust. . . . Internationally recognized commercial law arose as a substitute for personal trust” (Hamowy 2008, 286). The law merchant was a private, market-driven phenomenon that did not emerge from or depend on government action.⁵

James Buchanan develops another explanation of ethical behavior in a small-numbers setting (1994, 66–71). He describes a social process in which interacting individuals signal a willingness to assist each other, to share resources in the absence of having formal or informal contracts. The process he describes fits into Hayek’s story about trust and its evolution. Sam Fleischacker (2004) offers a somewhat similar interpretation of Adam Smith’s oft-quoted statement about the baker, the brewer, and the butcher in their connection with providing the evening meal. He suggests that more attention be paid to the sentences just preceding the more famous ones: “[M]an has almost constant occasion for the help of his brethren, and it is in vain for him to expect it from their benevolence only. He will be more likely to prevail if he can interest their self-love in his favour, and shew them that it is for their own advantage to do for him what he requires of them” (Smith ([1776] 1904, 14)

5. For more on this topic, see Ridley 1996, 202–4. Leon Trakman describes the demise of the medieval form of law merchant and that law’s merger into common and code law (1983, 24–27).

Fleischacker emphasizes the importance of being able to “interest” and “shew” one’s “brethren”—perhaps an example of Buchanan’s signaling.

Frank Fukuyama also emphasizes trust as the mechanism or social norm that enables economic growth to occur beyond the bounds of small groups. Holding trust constant, his analysis suggests that an expanding knowledge economy can eliminate the need for large organizations and hierarchical firms because, in his view, hierarchies exist for quality-assurance purposes (1995, 24–25). He indicates that firms and other organizations become larger through vertical integration in part because of the cost of assessing trustworthiness when dealing beyond the firm’s walls. Following this logic, we might forecast that the current financial collapse will be a force leading to trust-forming mergers and consolidations, aside from those that might occur because of financial ratios and reserve requirements.

Daniel B. Klein (2002) considers the matter of trust in commercial settings where consumers seek assurances that the transaction outcome they desire will actually be delivered. He focuses on assurance, describing the demand for assurances, the willingness to pay for benefits received, and suppliers who provide assurances. Using auto repair as an example, Klein explains how multiple assurance mechanisms are supplied so that trust emerges in the consumer’s mind. With trust comes confidence in using the services of a particular repair company. The assurance mechanisms may include seals of approval, extended third-party warranties, the reputational capital of the service firm or owner, and recommendations from other customers of repair services that can be assessed directly only through experience (Nelson 1970).

Brink Lindsey also argues that “formal institutions are not enough.” These institutions must also be buttressed by “invisible bonds of reciprocity that restrain members of society from taking advantage of each other to the maximum extent the law allows.” He identifies “hard” institutions, such as police and courts, and “soft” institutions of cultural values that “allow agreements to be enforced between total strangers across the span of years and continents” (2002). As the extended order reaches the limits of social space, cutting across diverse cultures and norms, trust reliance itself becomes costly. Brands, insurance, hostages, credentials, certification, and common and code law rules become increasingly valuable.

Certified financial statements that use globally recognized and understood accounting standards form one of the key assurance-building blocks for trust formation in financial markets. When the standards evolve from market transactions, they may be viewed as part of the assurance mechanisms that form Hayek’s market morality. When standards are distorted politically or on the basis of regulatory expediency, they lose their market-generated moral bearings because they no longer reflect market-based knowledge. Credit ratings form another part of trust technology. The competitive determination of ratings by such firms as Standard & Poor’s, Moody’s, and Fitch helps agents to make trust-forming evaluations across the otherwise more opaque records of market participants. When ratings no longer reflect competitive market forces, their moral worth diminishes and trust erodes. Certified statements

and credit ratings can be buttressed with specialized insurance that spreads risk and reduces the cost of investing in risky bonds and other securities. Insurance such as credit-default swaps, which became a significant component of global financial markets in the period from 2001 to 2008, facilitated the purchase of homes nationwide. Along with audited statements and credit ratings, they formed part of a complex bundle of market-generated, assurance-forming devices that energized the expansion of the extended order.

Market-formed assurance mechanisms constitute part of the institutional framework in which financial transactions occur. When these institutions are formed by a competitive process, they support a market morality that generates confidence and trust. Institutional failure may arise, however, when political and regulatory distortions affect the operation of these trust-forming institutions.

How a Regional Subprime Mortgage Problem Became a Financial Nightmare

According to economist Lawrence H. White (2008), the 2008 financial collapse originated with a political effort to expand mortgage lending to consumers who could not meet normal standards of creditworthiness. What was later to be called “the subprime problem” began as an “affordable home” program that shoved aside market-based constraints. As White documents, the impetus came with congressional strengthening of the Community Reinvestment Act, the Federal Housing Administration’s loosening of down-payment standards, and pressure exerted on mortgage lenders by the Department of Housing and Urban Development to lend to the unqualified. As might be expected, the most politically responsive mortgage lenders were the two government-sponsored enterprises, Freddie Mac and Fannie Mae, which had been organized politically to expand U.S. homeownership opportunities.

White explains how federal efforts to make home ownership more affordable began seriously in 1934, when the Federal Housing Administration was formed for the purpose of insuring mortgages made by private lenders to qualified borrowers. This action taken in the depths of the Great Depression was intended to shore up housing markets while other federal action was under way to acquire defaulted mortgages and properties affected by the general hard times. But one might go back even farther, to the Homestead Act of 1862, to find politicians seeking to help Americans achieve the Jeffersonian dream of land and home ownership. Although approximately two million homesteaders took advantage of this opportunity to settle in the new West, about 60 percent of them failed—or, in a more modern sense, defaulted on their mortgages (Warren 2008).

The more recent political urge to expand homeownership beyond the limits of real capability received a major stimulus from President Bill Clinton, when he pushed an “affirmative action” program for housing and set quotas for Fannie Mae

and Freddie Mac to buy poor-quality mortgages made to low-income families (“The Subprime Lending Bias” 2008). By 2000, these mortgages, many of which were subprime, made up half of the two government-sponsored enterprises’ loan portfolios.

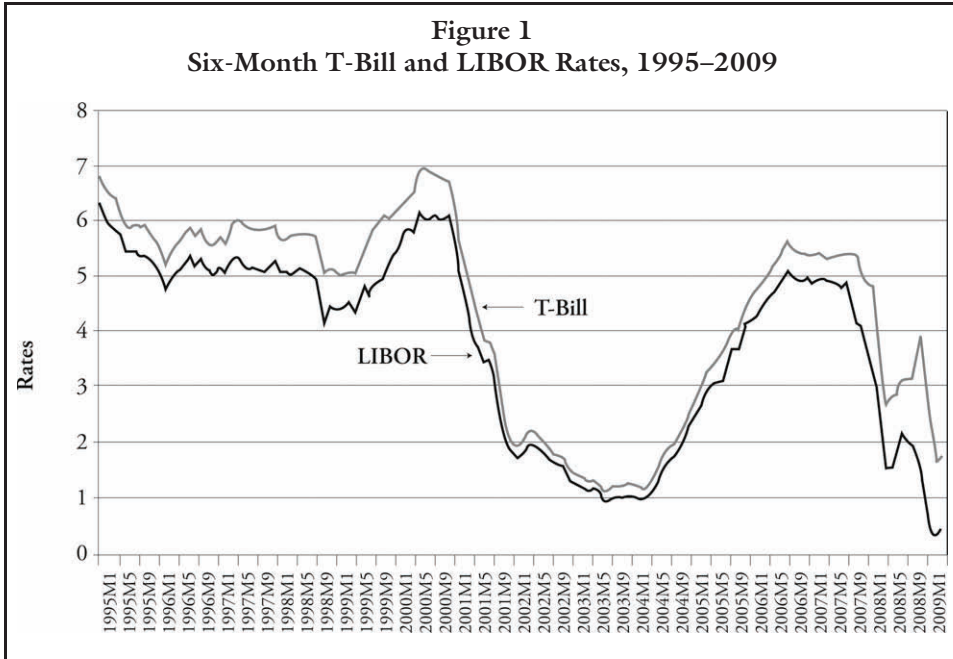
George W. Bush followed in Clinton’s footsteps in December 2003, when he signed a new law with the wonderful name “the American Dream Downpayment Act” (“White House Philosophy Stoked Mortgage Bonfire” 2008). The accompanying U.S. Department of Housing and Urban Development (HUD) press release described the logic of the law this way: “There is a reason why many American families can’t buy their first home—they can’t afford the downpayment and other upfront closing costs required to qualify for a mortgage. For as many as 40,000 low-income families, that will change as President Bush today signed *The American Dream Downpayment Act* into law” (U.S. HUD 2003).

Congress backed the law by authorizing \$200 million to bring assistance to 5.5 million families by the end of the decade. This goal brought the aforementioned HUD pressure on Fannie Mae and Freddie Mac to open the money valves. The effect of the larger flow of credit can be seen in terms of subprime lending. From 1993 to 2003, new subprime loans accounted for 10 percent of all mortgages (Hall and Woodward 2008). In 2004, subprime’s share rose to 26 percent; in 2005, to 28 percent; and in 2006, to 40 percent. From 2005 to 2007, Fannie Mae and Freddie Mac purchased approximately \$1 trillion in subprime and low-quality (Alt-A) mortgages, which amounted to 40 percent of the total mortgages purchased in those years (Wallin 2008, 5). *Washington Post* writer Caroline Leonnig would later explain the situation that followed:

In 2004, as regulators warned that subprime lenders were saddling borrowers with mortgages they could not afford, the U.S. Department of Housing and Urban Development helped fuel more of that risky lending. Eager to put more low-income and minority families into their own homes, the agency required that two government-chartered mortgage finance firms purchase far more “affordable” loans made to these borrowers. HUD stuck with an outdated policy that allowed Freddie Mac and Fannie Mae to count billions of dollars they invested in subprime loans as a public good that would foster affordable housing. (2008)

Pressure on the two government enterprises to enrich an aftermarket for subprime mortgages, an action that would ultimately force them into bankruptcy, was a necessary element in the story, but not sufficient. Pressure alone could not bring cash to the store. The political dream had to be accommodated with expanded credit and, as White (2008) shows, the Federal Reserve Board chose to provide that credit.

Evidence of the Fed’s accommodative stance is shown in figure 1, which displays data on the auction rates for six-month U.S. Treasury bills and the six-month



London Interbank Offer Rate (LIBOR) for 1995 through March 2009. The six-month LIBOR is used widely in adjustable-rate mortgage (ARM) contracts. As the figure shows, both the T-bill rate and the six-month LIBOR fell sharply from June 2000 to September 2003 and remained relatively low through 2005. The attractive rates were applied to ARMs that, as White puts it, “shifted the risk of refinancing at higher rates from the lender to the borrower” (2008, 4). Many borrowers accepted a bet that the Fed would keep rates low for a much longer time. As the more recent data in the figure indicate, those who made that bet early in the game were wrong. Just as surely as the Fed eased in an effort to foster a faster-growth economy, it later hit the monetary brakes to slow the great American bread machine before it overheated. Therefore, the rate applied in the ARMs adjusted upward, and what had looked like affordable housing to people who borrowed when rates were low began to look more like the subprime problem when the same people found their mortgage payments no longer fit the family budget.

Rising interest rates associated with Fed tightening generated severe default effects across the United States in three regions: the industrial north-central states, where the older auto industry (long in decline) was centered; the far west, with California, Arizona, and Nevada bearing the brunt; and Florida, where rapid construction of condominiums and houses now created a large inventory of unsold homes. Figure 2 shows the frequency of defaults across the United States in the first quarter of 2008. As noted, the default problem was most severe with subprime ARMs.

Thus, an accommodating Fed, which put money on the table only to take it away later, was a necessary part of the financial collapse. But putting money on the

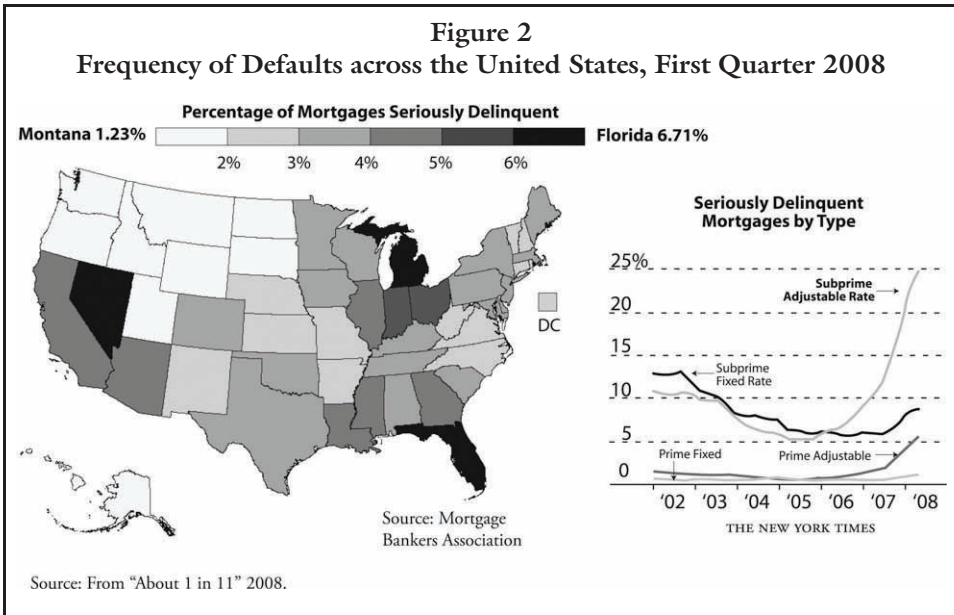


table was not sufficient to generate a global financial collapse. For the U.S. subprime problem to reach the limits of the global economy required something else, which was trust.

Transmitting Trust in Mortgage Markets

To identify the institutional failure that destroyed trust, we must first describe the assurance transmission itself. We begin with a highly stylized description of the market that had evolved in the early twentieth century. In a rudimentary way, the mortgage market begins when an individual seeks to borrow for the purpose of acquiring real property—a home or commercial real estate. Lending institutions represent savers and investors who put their money at risk in the hope of earning a return. Lending intermediaries, such as local savings and loan associations and banks, consider mortgage applications and make decisions based on the borrower's creditworthiness and the likelihood of maintaining a pool of savings to fund the debt. Through time, savers and investors identify dependable intermediaries; these institutions are the ones that can maintain a more stable supply of lendable funds. Intermediaries maintain their ability to be a dependable supplier—one that can be trusted—by enforcing standards of creditworthiness on borrowers. This rudimentary system has a tolerance for error that is determined by the competitive marketplace. In a close-knit community with common ethical norms, trust identification comes easier than where borrowers and investors are far removed from one another. In the more distant cases—the extended order—market-generated assurance mechanisms become critical.

In the twenty-first century, mortgage markets reached the limits of the extended order. The borrowers and lenders described earlier were still an integral part of a closed system, which is to say that the system relied on resources contained in it and generated by it. There was no exogenous source of bailout money, but additional components that globally expanded the availability of lendable funds had been added to system. The direct lender, who previously made a mortgage and kept it on the books until it was paid, had been largely displaced by lenders who originated a mortgage that they then sold to another intermediary who bundled a large number of mortgages, or pieces of them, to be securitized. The bundle of mortgages became the collateral for bonds that were sold around the world. As the system expanded to global limits, assurance mechanisms became more critical to the continued working of the system. It was costly for investors in Asia who might be interested in U.S. originated, mortgage-backed securities to assess the creditworthiness of an original borrower in a particular Atlanta, Georgia, neighborhood or of the lending institution that made the original loan. At the same time that global investors were buying U.S. mortgage-backed securities containing subprime components, those same securities also looked good to U.S. financial institutions and investors. As a result, U.S. and other financial institutions began to borrow short and invest long, much as the savings and loan industry had done before the 1980s collapse.⁶ All along, market-derived assurance devices were supplied to reduce the cost of trust formation.

Credible, market-tested, international accounting standards and credit ratings buttressed or replaced trust between known individuals that otherwise might have been required. Instead of trusting in individuals or their firms, global investors placed their trust in credible symbols and rules. With reliance on accounting standards and credit ratings, the closed system functioned to provide mortgage access to individuals with different levels of creditworthiness. The supply of different-quality mortgages responded to market demand. As the appetite for risk increased globally, the quantity of low-quality, mortgage-backed bonds increased. Quality assurance could be held constant within the closed system so long as the assurance mechanisms functioned effectively, which is to say so long as no institutional failure occurred.

The process by which subprime mortgages are originated, securitized, and sold in international markets contains critical trust-communicating intersections. The first intersection occurs at the mortgage's origination, when a potential borrower works with a lender's agent to write a mortgage contract. At this stage, both parties have an

6. Anil Kashyap, Raghuram Rajan, and Jeremy Stein (2008) argue that the debt and investment imbalance was the main contributor to the financial mischief banks brought on themselves. Once defaults began, an affected bank had to sell mortgage-backed securities to cover losses. This sale reduced market prices for those securities, which, given mark-to-market accounting rules, forced other banks to write down their mortgage-backed assets. This write-down in turn led to more sales and a continued downward spiral. In other words, the composition of balance-sheet assets, coupled with mark-to-market accounting rules, was a major source of instability. See also Meiners and Yandle 1991 for the argument that the combination of government-required deposit insurance and partial deregulation encouraged excessive risk taking and destroyed the industry's asset base.

incentive to understate the risk. The borrower hopes to get a mortgage with attractive terms; the originator-agent hopes to earn a commission for closing the deal. The originator-agent, however, must deal with a hierarchy that imposes quality control. An officer of the lending firm must approve the deal. A bankruptcy constraint closes the system. Market-driven constraints affect the standards used when mortgage paper is approved and sold to be bundled and securitized in a mortgage-backed security. The bundling financial institution imposes more stringent standards when the securitizing agency imposes stricter standards. When the securitizing agency relaxes standards, the gate is open wider for originators to make lower-quality loans. Evidence indicates that standards are relaxed with higher volume and prospects of enlarged profits (Keys et al. 2008).

In the case of the process leading to the 2007–2009 collapse, the entry of government-sponsored enterprises—the most important being Fannie Mae and Freddie Mac—stretched the constraints on the closed system. Viewed as backed by the full faith and security of the federal government, these two mammoth lenders expanded the limits of an otherwise closed system. Bankruptcy was no longer seen as a viable threat. When Fannie and Freddie were instructed by their political masters to expand their subprime portfolios, standards tended to be relaxed all the way to the origination process. All else equal, commission-paid originators expanded the hunt for otherwise less-qualified borrowers. Subprime lending increased. Institutional failure was begun.

The Washington Mutual experience shows how subprime lending expanded to the point that the firm became one of the largest mortgage lenders in the United States and later one of the largest failed banks (Goodman and Morgenson 2008). Beginning with a major effort in 2003, when interest rates were extraordinarily low, the firm expanded lending at such a pace that by mid-2007 its subprime lending reached \$4.2 billion. One year later the amount stood at \$11.5 billion, and the firm was bankrupt (Goodman and Morgenson 2008). During the 2003–2008 interval, Washington Mutual built offices nationwide, paid originators a commission for loans approved, and reduced standards when approving loans. All of this was possible because the firm could sell its subprime paper to Wall Street bundlers, who then securitized the debt, which was sold in global markets.

Two prominent, interrelated assurance devices facilitated the globalization of U.S. mortgage-backed securities. The first device consisted of the highly visible credit ratings assigned by the three credit-rating firms—Moody's, Standard & Poor's, and Fitch—which relied on the second device, the uniform application of international accounting standards.

The function that the credit-rating agencies played became increasingly critical as financial intermediation shifted from banks, which had internal controls, to markets that were inherently more impersonal and more reliant on credible third-party evaluations. The revenue incentives faced by rating agencies that are paid to classify debt instruments by financial intermediaries worked against the incentive to

give strictly interpreted ratings.⁷ By statute, these three rating agencies have the rating market to themselves; they are a part of a government-mandated cartel.⁸ Even though competition may be lacking, if Moody's, for example, assigned a AAA rating to a GS Mortgage Securities Corporation bond backed in part by subprime mortgages, investors worldwide would be assured that they were not assuming undue risk when buying the paper. Of course, Moody's and the other rating firms relied on the audited records of the underlying firms and on their own assessment of the predicted payoffs of the mortgages themselves. As Wall Street perfected the production of consolidated debt obligations, which consisted of a mixture of mortgages of differing qualities, the rating agencies became more like chefs in the kitchen than purveyors of quality control. In effect, those constructing the obligations would tell the rating agency the outcome they desired as they mixed together mortgage instruments of differing quality. The agency, in turn, would specify the appropriate mix. In the end, 85 percent of the subprime mortgages issued were folded into structured debt obligations with a AAA rating (Hoenig 2007, 10–13). As Martin Weiss (2007) describes the situation, the rating agencies were too closely involved in constructing the product they were rating, had incentives to give higher ratings (and thus earn higher fees from volume), and were giving AAA ratings to municipal bond insurance companies, which in turn were passing their AAA rating to bond issuers who bought their insurance.

The *New York Times* reported that Moody's revenue from rating-structured financial instruments, which include mortgage-backed securities, rose from around \$400 million in 2003 to more than \$800 million in 2007 (Morgenson 2008). Along the way, debt that carried high ratings began to look more like junk—another institutional failure. As a result, the rating credibility fell, and financial institutions could no longer rely on the ratings when deciding whether to lend to another financial institution or not. The term *toxic assets* entered the vocabulary. A Moody's managing director is reported to have stated in a September 2007 internal management survey, “These errors make us look either incompetent at credit analysis or like we sold our soul to the devil for revenue, or a little bit of both” (qtd. in Morgenson 2008). Thus, a key trust-forming device became biased and no longer reliable. Credit markets tightened.

Biased credit ratings do more than mislead investors; they can also bias the amount of capital required by financial institutions. Robert Rosenkranz points out: “For every dollar of equity that insurance companies are required to hold for bonds rated AAA, \$3 is needed for bonds rated BBB, and \$11 is needed for bonds rated just below invest-

7. On this matter and on the changing nature of financial intermediation, see Hoenig 2007, 10–13.

8. A new element of the potential cartel-generated wealth was described in conjunction with a March 2009 program announced by the Federal Reserve Board (Ng and Rappaport 2009). The new program involves Fed guarantees of as much as \$1 trillion in mortgage-backed securities. According to the *Wall Street Journal*, this program would generate rating fees of from \$400 million to \$1.2 billion for a single rating firm (Ng and Rappaport 2009).

ment grade (BB). For banks, the sensitivity of capital requirements to ratings is generally even more extreme.” He goes on to indicate that “regulatory reliance on ratings makes the rating agencies the de facto allocators of capital in our system” (2009).

With the regulatory recipe for capital specified by ratings provided by the three rating agencies, mortgage bundlers had powerful incentives to mix subprime mortgages with enough AAA paper to yield a AA or, even better, an AAA outcome. The raters’ regulatory role probably increased the demand for subprime mortgages that could be bundled, mixed, and matched in consolidated debt obligations, a new Wall Street product that could be sold in global markets with AAA ratings (Rosenkranz 2009). Of course, when mortgage-default rates went through the roof, AAA took on a new meaning—or, rather, lost all meaning.⁹

A challenge also had to be met when dealing with international accounting standards. These standards were supplemented by Securities and Exchange Commission rules as interpreted by the Federal Accounting Standards Board (FASB) (“All’s Fair” 2008, 92). Among the rules is the Fair Value Accounting Standard, more formally known as FASB 157, adopted in 2007, which specifies mark-to-market methods of evaluation for financial assets. Various forms of mark-to-market accounting rules had been in place since 1994. The rules are intended to provide transparency to investors and are more meaningful than historic-cost or cash-flow evaluations in the normal course of doing business when markets for securities under scrutiny are functioning.¹⁰ But when markets lock up, trade ceases, and asset evaluations can occur only when a financial institution goes through bankruptcy, the beneficial aspects of mark-to-market become more questionable.¹¹ When asked to comment on the accounting rule, Nobel laureate Gary Becker, a supporter of mark-to-market logic in normal times, observed: “[W]hen you have a very thin market, you have to be very careful about what it means to mark to market. It’s a big problem if you literally take mark-to-market in terms of prices continuously based on transactions when there are very few transactions in that market” (qtd. in O’Grady 2009).

To make things more complicated for those who place their trust in financial statements, mark-to-market rules are not required across the board for all assets (“All’s

9. On January 25, 2009, the Obama team indicated that initiatives were in the works to develop federal rules governing rating agencies (Labaton 2009). On April 15, the Securities and Exchange Commission hosted a conference to consider the rating agency issue (Ellis 2009). The conference deals with accuracy, conflicts of interest when a rating firm is also involved in the construction of a product being rated, how rating agencies might be rated or regulated, and the relative merits of opening competition for the dominant agencies.

10. Steve Forbes (2009) argues that mark-to-market accounting rules are the principle cause of the banking meltdown. He points out that had the accounting rule been in place in the 1990s, almost every U.S. bank would have collapsed because of shaky Latin America and commercial real estate loans. American Enterprise Institute senior fellow Peter Wallison (2009) provides an alternative accounting rule based on discounted cash flow over the expected life of the security in question.

11. Stephen Ryan (2008) provides a rigorous description and evaluation of mark-to-market rules in the context of the financial collapse. On theoretical grounds, he is not persuaded that the rules contributed significantly to what I term “lost trust.” He does offer suggestions for empirical research that might in part resolve the question.

Fair” 2008, 93). Whether these rules are to be applied depends on the asset owner’s intentions. If the intention of the bank that owns the asset is actively to trade the asset, then market value must be used at all times when statements are issued. If the intention is not to trade, but to hold the asset for later sale, then slightly different rules apply. And if the intention is to hold a security to maturity, then the asset can be listed at cost.

The upshot of all this is that what might appear to the untrained eye to be comparable financial statements are not comparable at all. For example, *The Economist* magazine points out that at the end of 2007 more than 75 percent of Goldman Sachs assets were carried at fair value (mark to market), but less than 50 percent of Morgan Stanley’s assets were so measured, and slightly more than 25 percent of Bank of America’s assets were stated at fair value (“All’s Fair” 2008, 93). It is theoretically possible for two banks to have identical assets, but for one bank to have a significantly different evaluation assigned to its assets. Of course, a sudden revaluation of assets following another institution’s distress sale, as when Lehman Brothers failed unexpectedly or when the Treasury is to institute a government-managed toxic-assets purchase program, might eliminate critically important reserves, and that elimination might cause the credit rating of the bank in question to be lowered. Loss of a prime credit rating might lead to loss of access to credit markets and then to bankruptcy.

Mark-to-market accounting rules had been condemned by Alan Greenspan, former Treasury secretary Nicholas Brady, Paul Volker, Milton Friedman, and even Franklin Delano Roosevelt, but not until the rule began to constrain the government were steps to change it finally taken (McTeer 2009). In March 2009, the rule brought distress to the Federal Home Loan Bank (FHLB) system (Hagerty 2009). The FHLB is a congressionally formed system that is owned by commercial banks, thrifts, credit unions, and insurers that obtain advances from the system for mortgage lending. In March 2009, the FHLB system reported a fourth-quarter loss of \$672 million, which, according to press accounts, was the first loss in twenty years experienced by the twelve regional banks (Hagerty 2009). The losses were generated by write-downs of mortgage-backed securities required by the mark-to-market rule. According to a *Wall Street Journal* account of the situation, the “banks plan to hold these private label securities until maturity and don’t expect to realize major losses on them. But accounting rules require them to mark the securities to the estimated market value at a time when very few investors are bidding for such assets” (Hagerty 2009).

A December 2008 Securities and Exchange Commission review of mark-to-market rules ended with a recommendation that they be maintained; the report also indicated in a review of multiple episodes that no evidence was found that fair-value accounting by itself was the proximate cause of a financial institution’s failure (Crittenden 2008). The conclusion left open the possibility that the accounting rule, coupled with faulty credit ratings, might have reduced a bank’s access to credit, which led to reduced ratings and a rush to sell mortgage-backed securities to obtain cash. As weak assets hit the market and depressed prices, mark-to-market rules put other institutions in jeopardy. The result was a cascading collapse of creditworthiness.

In this sense, fair-value accounting rules worked to the financial institution's advantage in rising or stable markets, but did not work so well when markets for entire asset categories were collapsing. As the accounting-rule debate continued, the keepers of the rule offered a compromise. On March 12, 2009, the FASB chairman agreed in a U.S. House hearing to issue guidelines that would ease the mark-to-market accounting rules (Rothmann 2009).

On April 9, 2009, the FASB's mark-to-market rule was revised (Chasan 2009). Noting that the new guidelines apply in cases when markets are not active, the FASB indicated "the changes would be effective for the second quarter period for most U.S. companies, but early adoption would be permitted for the first quarter" (Chasan 2009). Political economists might note that the new FASB rules came into effect at just the right moment to accommodate the Obama administration's expanded plan to purchase distressed mortgage-backed securities currently held by financial institutions.

Because of the trust complications associated with credit ratings and accounting rules and the explosive growth of mortgage-backed securities from 2003 to 2007, the market delivered another device for assuring trust, the credit-default swap (CDS), a name that hides the fact that the device is an insurance contract sold by one investor to another to cover the risk of default on the debt of a particular firm or public unit covered by the contract. The market did not rush to CDSs voluntarily. Regulators required CDSs to offset the risk associated with mortgage-backed securities held on the books of financial institutions (Kessler 2009). The CDSs transmitted the credit rating of the firm issuing them. For example, AIG with a AAA credit rating sold CDSs to banks and other financial institutions, as required by bank regulators. As a result, there were CDSs for Morgan Stanley securitized bonds. If the bonds covered became shaky, the price of the CDSs would rise, signaling the presence of a problem. CDS prices could be a far more effective monitor of creditworthiness than the infrequently changed ratings given by the rating agencies. When the price of CDSs rose because of perceptions that risk had risen for the insured bond, the credit rating of the original issuer of the mortgage-backed bond was reduced. In fact, movement of CDS prices could predict later changes in credit ratings ("Pressure Gauge" 2008).

With regulators requiring CDSs, the volume of CDSs grew rapidly during the subprime heydays, rising in gross value from \$4 trillion in 2003 to more than \$62 trillion in August 2008.¹² A high-volume market developed in which CDSs were traded ("Pressure Gauge 2008"). Although volumes were excessive, CDSs were a trust-forming innovation. They and their prices supplemented credit ratings and accounting information, at least until the bottom fell out, as it did in September 2008, when AIG got into trouble. But even afterward, as newly inspired regulatory

12. For comparison purposes, note that \$16 trillion of life insurance was in force in the United States in 2002, and world gross domestic product was approximately \$56 trillion. CDSs, however, are more like life insurance than gross domestic product, unless there is systemic default, a similar outcome to a plague.

threats were forming, CDSs continued to insure assets of uncertain quality, including U.S. government bonds. (“Credit Default Swamp” 2009).

For insurance of any form to be viable, the contract writer—the underwriter—must be able to forecast expected losses and set prices or premiums so that the revenues generated will cover operating costs and expected losses. When based on actuarial experience and the large-numbers principle, insurance works, except when many insured parties simultaneously suffer catastrophic losses. Insurance for payment of subprime mortgages will work as long as a predicted number of mortgage borrowers default, but when large numbers default in an undiversified portfolio, the insurer may find itself in great trouble.

The September 15, 2008, failure of Lehman Brothers and the resulting political cries of crisis generated chaos in the CDS and other markets. One key player, AIG, the world’s largest insurance company and the major seller of CDSs, was brought to its knees when rating agencies downgraded its debt, forcing the firm to pass \$14 billion in collateral to debt holders. The problem did not stem from the firm’s financially strong traditional insurance business, but from its CDS business. Later in the day, the federal government seized AIG, initially lent the firm \$85 billion, later raised the investment to \$122 billion, and claimed an 80 percent equity stake in the firm. AIG was nationalized. Within twenty-four hours, the shares of Morgan Stanley and Goldman Sachs were hammered as the firms scurried to find new financial partners who might take a position with them large enough to avoid bankruptcy. Morgan Stanley and Goldman Sachs ultimately survived, but not without the assistance of the U.S. Treasury and a transformation from investment bankers to universal banks with access to government insurance. By then, Wall Street’s big five dealer-investment bankers—Bear Stearns, Goldman Sachs, Lehman Brothers, Merrill Lynch, and Morgan Stanley—had either disappeared through bankruptcy, been acquired by a commercial bank, or were transformed into banks with new access to deposit insurance and the Fed’s loan window.

Market-generated assurance devices distorted during the subprime heyday lost their quality-assurance capabilities. As Fukuyama had forecast, hierarchies replaced trust as the federal government became the owner of AIG, a dominant lender and equity owner of General Motors, Chrysler, and GMAC, and 20 percent owner of the equities in the U.S. commercial banking system.¹³ But the demise of trust devices did not end with those directly associated with mortgages, mortgage lending, and the world market for mortgage-backed securities. The failing financial markets also brought down every major insurer of municipal bonds. Started in

13. The Federal Deposit Insurance Corporation (FDIC) publishes its Quarterly Banking Profile and posts to its Web site. The November 25, 2008, data indicate total equity capital and reserves for all FDIC-insured commercial banks and savings institutions of slightly less than \$1 trillion. SNL Financial in Charlottesville, Virginia, reports that as of November 12, 2008, Troubled Assets Relief Program commitments of \$212.7 billion has been made to various institutions across the nation (see <http://www.snl.com/bank>). The amount committed is approximately 20 percent of the total equity.

the 1970s, bond insurance enables an issuer of municipal bonds to enjoy the AAA credit ratings of the insurers and thus to pay lower interest rates by buying insurance from one of the major bond insurers. The credit-rating enhancement afforded to municipalities by bond insurers reduces the scrutiny that rating agencies might otherwise apply when rating insured bonds: the rating agencies can merely report the insurers' credit rating. In recent years, municipalities have paid approximately \$2.5 billion annually in insurance premiums to firms that include MBIA, AMBAC, and Fidelity Guarantee Insurance (Richard and Preston 2006). Bond issuers presumably save at least that much in interest costs. Yet in the \$2.26 trillion municipal-bond market, hardly any bond issuer ever went belly up—at least until recently.

The insurance idea is straightforward: the insurance companies review the financial strength of cities, counties, states, and other bond issuers and charge a premium for their services. They then guarantee that the principle will be paid in the event of bankruptcy. With AAA ratings obtained through insurance, investors worldwide have no reason to check whether Richland County Georgia Hospital Bonds are OK. Insurance transmits the assurance. But the bottom began to fall out early in 2008, when defaults on subprime mortgages affected a new line of business offered by the municipal-bond insurance companies. These companies were insuring mortgage-backed securities. The value of the subprime mortgage-backed assets held by the insurance companies began crumbling, which caused rating agencies to take away their AAA ratings or, worse, to rate their debt as junk (Weiss 2008).

Municipalities that had enjoyed the AAA ratings through purchase of insurance suddenly found themselves facing substantial increases in interest costs. For example, Bloomberg reported that Park Nicollet Health Services in Minneapolis would most likely have to pay an extra \$5 million in 2008 because interest doubled on its floating-rate debt (Braun 2008). The interest rates on the bonds, insured by AMBAC, rose from 3.06 percent to 6 percent. The hospital had anticipated enjoying AAA interest rates for thirty years. In a matter of days, another one hundred hospitals suffered the same blow. A few weeks later, the municipal-bond auction market froze solid. This market, where floating-rate bonds are frequently sold and short-term interest rates are determined, simply stopped functioning. As William Selway put it, "The auction-rate market came unhinged as losses tied to subprime mortgage bonds and related securities threatened bond insurers' AAA ratings, causing investors to shun the securities they backed. These bond insurance companies guaranteed about half of the \$2.6 trillion of outstanding state and local government debt" (2008). With the collapse of municipal-bond insurance, yet another assurance device bit the dust.

Final Thoughts

The great financial collapse of 2007–2009 is a watershed in the development and destruction of market-based morality. The seeds for the collapse were planted when politicians distorted market operations through political pressures and subsidies to

make house ownership affordable even for individuals who could not afford to own houses. But government programs that mandated the expansion of house-ownership opportunity were not enough to generate a later subprime crisis. Money had to enter the picture. The Federal Reserve accommodated the politically engineered increase in demand for housing by expanding the availability of credit. Interest rates dropped and remained extraordinarily low for several years. Although necessary, expanded credit was not sufficient alone to generate a global market for mortgage-backed bonds that would keep funds flowing to subprime borrowers. Assurance devices had to be invented to extend the market.

Markets expanded when trust was formed, and they collapsed when the politically distorted assurance devices failed to function. In the process, government, the lender of last resort, also became the owner of last resort. Political expediency has displaced market-based morality. Wealth creation has been put on hold. Once again, a crisis has generated a government response that leads predictably to permanent expansion of regulation, which will predictably take the place of market-driven trust devices.

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