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Robert J. Shiller

Best-selling author of *Irrational Exuberance*

THE Subprime SOLUTION

How Today's Global Financial Crisis Happened, and What to Do about It

With a new preface by the author

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How Today's Global Financial Crisis Happened, and What to Do about It

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A general bonfire is so great a necessity that unless we can make of it an orderly and good-tempered affair in which no serious injustice is done to anyone, it will, when it comes at last, grow into a conflagration that may destroy much else as well.

—John Maynard Keynes

The Economic Consequences of the Peace, 1919

Preface to the Paperback Edition

The first edition of this book appeared in August 2008, after the housing-induced financial calamity began, but a month before the collapse of Lehman Brothers, Merrill Lynch, and American International Group marked the transition to a full-blown crisis. The motivation for the book, as described then, was to deal with a real worry even before the worst of the crisis was seen: the worry that we could experience several more years of a bad economy, possibly even a lost decade, and, even worse, that such a crisis could repeat decades and more into the future. The concern was both short-term, dealing with the existing crisis, and long-term, getting things right for the rest of the century so as to prevent the next such crisis.

Indeed, we now know that it was right to worry about the future: we have seen a continually bad economy in many places around the world since 2008. World Bank data show that by 2010, all North American economies and three-quarters of European economies, as well as the Australian, New Zealand, and Indian economies, had sunk even further, with employment-population ratios even lower than in the extreme crisis year of 2008.* As of 2012, the situation looks even worse in many of these places.

This book argues that the subprime crisis, as it was called, was in essence the bursting of a real estate bubble. This remains true from today's perspective, even though other subsequent events have captured attention. This bubble, and the psychology that lay behind it, was the ultimate cause of the crisis. Financial innovation was not the primary or ultimate cause of this bubble, as so many have concluded. Certainly, growing pains in innovation were part of the story. Regulatory inattention and central bank laxity before the burst were also significant parts of the story, but not the central explanation, for these were consequences of the same complacency that the bubble brought with it.

Subprime loans, which gave the name to this crisis, were part of this bubble in many countries around the world, and still stand for it globally, even though sub-

*http://data.worldbank.org/indicator/SL.EMP.TOTL.SP.ZS prime loans were less prominent outside the United States, where the crisis began. As the worldwide crisis has evolved, concern has shifted from subprime loans toward government debt, and the latest phase in the crisis (particularly centered on Greece, Spain, Italy, and some other European countries), called the European sovereign debt crisis, has taken center stage. But the circumstance that produced the subprime crisis is still the fundamental cause of our later troubles. The bubble-induced complacency, in the decade that preceded this crisis, complacency about higher levels of debt in the United States, which led to its subprime boom and bust, came from the same mold as the complacency that led to higher levels of European government borrowing. Moreover, the actual European sovereign debt crisis was triggered in 2009 by the loss of confidence in the financial system that the subprime crisis created. In this century the financial system is interdependent around the world, in terms of contractual interconnectedness, and cultural and institutional similarities.

Clearly, a great deal was lost with the subprime crisis. This book is an attempt to explain the origins and economics of the subprime crisis—as a precipitator of the financial crisis. But more than that, it is a call for innovating and advancing the institutions that we depend upon for maintaining stable asset markets and a vibrant economy.

The sad history of finance over the past four years, since the first edition of this book, is an ongoing story that calls for both immediate measures and long-term institutional reforms. The long-term reforms I favor, including, among others, more flexible mortgage instruments, are described in Chapter 6 of this book, and I stand by them. But more immediate measures are also needed to deal with homeowners whose mortgages remain underwater.

Through a Glass Darkly: Housing Finance and How It Crashed

From our perspective several years later, we can ask: why did this subprime market boom and bust so badly? A combination of errors appears to have been at work. The fundamental error was the seemingly near-universal belief then that home prices could never fall, at least not for very long, a belief that there is a persistent uptrend in home prices.

In 2011, Karl Case and I asked of recent home buyers in four cities: "Do you agree with the following statement? 'Home prices can never fall, or at least if they do fall they will bounce right back up.'" We asked this question after home prices in the United States had been *actually falling* for almost five years, and still, even so, 20%

of the respondents said they agreed. During the boom that preceded this crisis the fraction who thought this must have been much higher. It is perhaps unlikely that most people seriously thought about it and concluded that home prices could never fall, but many people did apparently believe that the long-run economic pressures of population and economic growth inevitably would push home prices up.

If you really believe that home prices have little risk of a sustained price decline, then you will probably think that mortgage securities are quite secure. If anyone fails to repay the mortgage the lender can just foreclose and sell the house and this will bring enough money to get the loan balance repaid. Moreover, usually there will not even be a foreclosure, since the homeowner who no longer wants to pay on the mortgage would usually rather sell the house and pocket the equity, thus avoiding foreclosure and its attendant costs.

It has long been a mystery to me why so many people thought, in the years before the current crisis, that home prices could never fall for very long. To me, it seemed obvious, from the rapid increase of home prices starting in the opening years of this century, and the abnormally high level that these prices attained by the eve of the crisis, that they might go down and stay down for a very long time. It seemed self-evident that this was a housing bubble, and a number of other people thought so. But these people were always in the minority. When on occasion I asked people why they thought home prices could never fall for long, I found that almost inevitably they had not read history or looked at any data, and merely trusted to the conventional wisdom.

We have to place trust not in conventional wisdom, but in serious analysis of history and in the social sciences. More fundamentally, we need to place our trust in the theory of mathematical finance, as it has been filtered and modified by the behavioral finance revolution.

Another seeming mystery: why did the residential-mortgage-backed securities (RMBS) market get so big, when people saw no need for it before the 1970s? What is the difference, really, whether one invests in RMBS or in shares in banks that own mortgages, as was the practice before Freddie and Fannie started issuing these?

Securitization was never really commonplace in most countries. Securitization has been particularly prominent in the United States, where it was given a powerful impetus of government support. Without the government subsidy effectively given to Fannie Mae and Freddie Mac in the United States, mortgage securitization never really managed to get started.

Theorists before the financial crisis thought that mortgage securitization was an important innovation.

Securitized mortgages help solve a "lemons" problem.* This problem, first given a theoretical exposition by George Akerlof, refers to the reluctance many people have to buying anything not suitably standardized and verifiable, like a used car, because they worry that they cannot judge whether the product has defects, and worry that sellers will deliberately stick them with a "lemon." The seller knows whether the item sold is good or bad, but the buyer does not. When you believe that the seller is going to give you the bad stuff, then you won't pay more for it than the lowest price. So, the seller won't even offer the good stuff to you, and the market becomes a market just for the bad stuff. Securitization was an innovation because it helped solve just this lemons problem.

A lemons problem is not incurable. Financial innovation can deal with it, at least in part. Placing mortgages into securities that are evaluated by independent rating agencies, and dividing up the evaluation of a company's securities into tranches that allow specialized evaluators to do their job, efficiently lowers the risk to investors of getting the lemons. Investors ought to be able to trust the higher-tranche CDOs more than any pool of mortgages

*See George A. Akerlof, "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism," *Quarterly Journal of Economics* 84(3): 488–500, 1970; and Claire A. Hill, "Securitization: A Low-Cost Sweetener for Lemons," *Journal of Applied Corporate Finance* 10(1): 64–71, 1997.

or any share in a complex and difficult-to-understand mortgage-lending institution. So, they would tend to be more willing to invest in them, and capital would become more available for housing.

So splitting into tranches was a good idea. But the idea did not work out well in practice. The reason is largely the error noted above, that everyone, including the rating agencies, thought home prices just couldn't fall. So, even though the theory was sound, the securities were often overrated, and people were too trusting in them.

And that is the trouble that has caused financial crises again and again. Given human nature, we are always vulnerable to bubbles and their bursts.

This example of securitized mortgages illustrates the kinds of financial innovation that are extolled and projected into the future in this book, albeit at a time when the public is increasingly hostile and suspicious of any financial innovations.

The Continuing Relevance of the Proposals in This Book

The most prominent *short-run* measure mentioned in this book, in Chapter 5, is to get some kind of workout for homeowners who are underwater on their mortgages. Unless they get a mortgage-indebtedness reduction, they will be a drag on confidence and the economy.

The short-run proposal described in this book was to create something like the Home Owners Loan Corporation that was created in the United States in the Great Depression. But nothing like this has happened yet. The U.S. government, in the country that epitomizes this problem, has made a number of efforts to reduce the burden on homeowners who are underwater—Home Affordable Modification Program (HAMP), Home Affordable Refinancing Program (HARP), Homeowner Affordability and Stability Plan (HASP), and the second edition of HARP (HARP II)—and yet all of these are disappointments; not many mortgages have been worked out under these programs.

The situation has not been getting better. Home prices in the United States, according to the S&P/Case-Shiller National Home Price Index, have fallen another 18% from the time the first edition of this book appeared until the first quarter of 2012, putting homeowners yet far more underwater, and leaving home values 35% below their peak in 2006. As of 2012, according to an estimate from CoreLogic's latest *Negative Equity Report*, nearly a quarter of all U.S. households are now underwater. Unless this problem is solved, millions more foreclosures are likely in the United States alone. There is a similar, though generally smaller, problem in other countries that have had substantial home price declines.

The problem has not been that there isn't a public will to see mortgage workouts happen more often. Indeed, many mortgage workouts would benefit mortgage investors and homeowners alike, and serve the national and international interest. The problem, most pronounced in the United States, has been that it has been difficult to go through the legal tangles that were left in the wreckage of the subprime crisis. Any policy change would affect investors in first and second mortgages differently, and would affect the different tranches of collateralized debt obligations differently. It is hard to get people together to decide on what to do with the mortgages. That is, there is a collective action problem that the government is most suited to solve.

It has taken a long time to work through the legal possibilities of dealing with these tangles, but there does seem to be some hope today of putting a solution in place. There is a movement afoot to get state and local governments in the United States to use their power of eminent domain to impose mortgage workouts on investors. With this power the governments can legally condemn mortgages in the public interest, pay the owner of a mortgage a true market value for the mortgage (arguably far below the face value given the likelihood of default, and below the value that mortgage investors may record on their books), and reissue the mortgage to the homeowner with a lower principal, lower but still enough for the government investors to get paid back on the purchase of the mortgage. San Bernardino County and the city of Ontario, California, have begun actions to start a joint-powers authority to do just that.* Thus, there is still hope that something like the help for underwater homeowners proposed in this book may come to pass.

But the use of such measures to restore the economy is not something we want to plan to rely on for the long run. It is better to pursue longer-term solutions that do not require such drastic measures. These longer-term changes should have the form of making the financial system work better without government intervention, by redesigning our financial institutions so they make more sense from the standpoint of our financial theory.

Some of the longer-term proposals in Chapter 6 have actually seen the light of day. A prominent theme in this book was that we need to take concrete steps to democratize finance, make it work better for the people. The U.S. Dodd-Frank Act of 2010, often described as the most significant financial legislation in the United States since the Great Depression of the 1930s, has taken some democratizing steps. The act creates an Office of Financial Research, which is intended to make information

*http://www.loansafe.org/fontana-council-to-consider-joint-powers-agreement-to-help-underwater-mortgage-holders formerly known only to financial insiders available to the entire population. The act creates something akin to the new information infrastructure proposed here, by assembling new financial databases and making them available for public use. The act also creates a Bureau of Consumer Financial Protection (as originally proposed by Elizabeth Warren), described in this book as a new financial watchdog. The act even also provides for some degree of more comprehensive financial advice, with its new Office of Housing Counseling. The U.S. Patient Protection and Affordable Care Act of 2010 also helps democratize finance and improves the information infrastructure. It created health insurance exchanges and reduced selection bias that inhibits individuals from purchasing insurance by prohibiting preexisting condition exclusions and establishing an individual responsibility requirement, an individual mandate.

Somewhat similar long-term measures have been taken, or are under discussion, in other countries around the world. It is difficult to summarize all of these, since there are so many countries, but suffice it to say that the Group of 20 (G20) statements issued by finance ministers and central bank governors do indicate some coherence in the direction of long-term policy responses to the crisis around the world. The statements stress the importance of "financial inclusion." The G20 goal is to develop a "Basic Set of Financial Inclusion Indicators, which will assist countries, policymakers and stakeholders in focusing global efforts on measuring and sustainably tracking progress on access to financial services globally." There will also be "data initiatives in support of financial inclusion." The G20 finance ministers also endorsed a Financial Consumer Protection Network as a "global network of market conduct financial authorities" and "recognize the importance" of financial education.*

The concept of financial democracy advocated in this book is similar to, but not the same as, that of the financial inclusion advocated in the G20 statements. The democratization of finance in this book is fundamentally about financial innovation that will bring more of the concerns of people under the umbrella of finance risk management and incentivization and not just improve access to conventional financial resources.

Governments find it difficult to innovate in this way, and it is more natural for them to think in terms of subsidizing or taxing already-ongoing activities. Real innovation takes time, and tends to come mostly from the private sector, from those who practice finance, with the

*G-20 Finance Ministers and Central Bankers Statement (Text), Washington, April 20, 2012, paragraph 9. http://mobile.bloomberg.com/news/2012-04-20/g-20-finance-ministers-and-central-bankers-statement-text-?category=