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Debunking a popular myth about mortgage lending

In their research paper "The New Deal and the Origins of the Modern American Real Estate Loan Contract in the Building and Loan Industry," Jonathan Rose and Kenneth Snowden discuss financial innovation in the mortgage market in the 1930s. The main focus of the paper is the switch among building and loan societies (B&L) from amortization-by-share-accumulation to amortization-by-direct-reduction. To the typical reader—even one interested in the mortgage market—the topic sounds, to put it gently, quite esoteric. But I think this is an excellent paper and highly relevant to anyone interested in the financial crisis.

The authors systematically debunk a highly popular story about the history of mortgage lending in the United States. Rather than explain the story, I will quote Robert Kuttner, who exposited it in *The American Prospect* in July 2008:

> Before the Roosevelt era, virtually all mortgages were short term loans of five years or less, typically interest-only, with the principal due and payable at the end. If the homeowner could not roll over the loan, he lost the house. As foreclosures skyrocketed, the New Deal invented the modern, long-term, self-amortizing mortgage.

Kuttner is not an economist, but most economists are equally fond of the story. As Nobel Prize winner Franco Modigliani wrote, in a book coauthored with industry expert Frank Fabozzi: "Until [the Depression], mortgages were not fully amortized, as they are now..., but were balloon instruments in which the principal was not amortized, or only partially amortized at maturity, leaving the debtor with the problem of refinancing the balance."

Modigliani is not alone, as many economists who discuss the history of the mortgage market repeat some version of the story.[1] In fact, it appears that the only historical fact that most economists know about the mortgage market is that the federal government invented the amortizing mortgage during the Great Depression.

The myth of the balloon mortgage

What Rose and Snowden document is that B&Ls, which started lending money to borrowers in the 1830s, had never offered balloon products and had always demanded full amortization from their borrowers. B&Ls were the main source of residential finance on the eve of the Depression, so Kuttner and Modigliani's reading of history is clearly missing something important. I will discuss the sources of their misconception below, but first let me discuss what else Rose and Snowden address in the paper.

Rose and Snowden show that a major and economically interesting change did occur during the 1930s, but it wasn't the switch from balloon mortgages to fully amortizing loans. Rather, it was a change in the way that amortization was done. In the 19th century, the typical B&L mortgage, known as a "share-accumulation" contract, was a combination of a perpetual interest-only loan and a forced-saving scheme. When the accumulated forced saving equaled the balance of the loan, the savings were used to pay off the loan. To the borrower, the share-accumulation contract appeared much like a fully amortized mortgage today, with the borrower making a constant monthly payment until the loan was paid off. There was a difference, however, because the forced saving was not explicitly used to pay down the loan, but rather was invested in shares in the B&L.

In general, these shares were valued at par and paid dividends, which were invested in additional shares in the B&L. The loan was considered to be paid off when the borrower's accumulated investment (deposits plus accumulated dividends) reached the original mortgage balance.

Because of the role that dividends played in the amortization schedule, share accumulation did expose the borrower to some risk. If interest rates fell or credit losses were large, dividends might fall and, if credit losses were severe enough, shares might trade below par. The result was that the timing of the payoff of the

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Real Estate Research provided analysis of topical research and current issues in the fields of housing and real estate economics. Authors for the blog included the Atlanta Fed's Jessica Dill, Kristopher Gerardi, Carl Hudson, and analysts, as well as the Boston Fed's Christopher Foote and Paul Willen.

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loan was random, although until the Depression, it was almost always around 11 or 12 years. Starting in the 1870s, some lenders started allowing borrowers to apply the forced saving directly to the balance of the loan to reduce it. B&Ls slowly adopted the new design, called "direct reduction." Rose and Snowden document that right before the Depression, most B&Ls still used the share-accumulation system, but by the end, virtually all used the direct-reduction system.

Switch to direct-reduction contract not the result of government policy
Rose and Snowden argue that the failure of the share-accumulation model during the Depression, and not government policy, led to its demise. As mentioned above, borrowers were exposed to credit risk through their investment in B&L shares. During the Depression many B&Ls failed, undoing a lot of the amortization that borrowers had done. Rose and Snowden show that the rejection of the share-accumulation system across states was highly correlated with the number of local B&L failures during the Depression.

It is important to stress here that the switch from share accumulation to direct reduction is not what either Kuttner or the dozens of economists have in mind when they discuss financial innovation during the Depression. The share-accumulation mortgage was the antithesis of a balloon mortgage. The loan never came due, and even when the borrower lost money on the forced-saving scheme, as they did during the Depression, the borrower could keep the loan current by making the interest and forced-saving payment. The failure of large numbers of B&Ls during the Depression shows that short-term balloon payments weren't the main reason for foreclosures.

Commercial banks were small players in Depression-era loans
The historical basis for the story about the role of the government in the expansion of the fully amortized mortgage has to do with commercial banks, comparatively small players in the mortgage market. Commercial banks limited their offering to short-term, nonamortizing balloon instruments, but the banks accounted for only about 10 percent of mortgage lending in the United States in 1929. Their unwillingness to make long-term, fully amortized loans did not result from a failure of imagination or a lack of understanding of household finances but rather from legislation and regulation that forbade them from making long-term loans secured by real estate.[2]

The Homeowners Loan Corporation, set up by Congress in 1933 and the Federal Housing Administration, which opened its doors shortly thereafter, did insist on the direct-reduction design for all loans originated under their auspices, but Rose and Snowden argue that this had little effect on the B&Ls, which were rapidly moving in that direction anyway. Ironically, to allow commercial banks to do FHA loans, Congress had to amend the National Banking Act. In other words, the adoption of direct-reduction mortgages by commercial banks did not result from the encouragement of policymakers but rather from the cessation of discouragement.[3]

"Financial innovation" is incremental, not spontaneous
I am particularly pleased to see this paper, as I have been making this point in speeches,[4] blog posts and congressional testimony for many years, albeit with much more limited evidence. In the interest of full disclosure, I must confess that I myself had been seduced by the legend of the invention of the amortized mortgage during the Depression, and for many years used it as an example in macroeconomics lectures. It was only when I started researching the history of the mortgage market in 2005 that I looked at the data and found that it wasn't true. Let me say that virtually no economist who repeats the story cites any data or even cites a study that uses data.

Debunking a popular story will get the most attention, but I believe Rose and Snowden have a deeper, more important point to make. That point is that financial innovation does not emerge as a bolt from the blue but typically reflects the accretion of small changes over long periods of time. Rose and Snowden describe that the emergence of the direct reduction mortgage as the dominant contract in the United States in the 1930s was the result of 100 years of incremental innovation. B&Ls, first created in England in the 18th century, came to the United States in the 1830s and were temporary associations in which a group of households would agree to contribute to a pool to provide loans to one another until all the members of the association had homes. Over the next 40 years, B&Ls morphed into permanent institutions but still retained many cooperative features. The direct reduction contract, imported from England like the original B&L idea, appeared in the 1870s in Ohio, which had a particularly innovative B&L industry.

Rose and Snowden argue that the incremental character of financial innovation is similar to that of nonfinancial innovation. They write that:

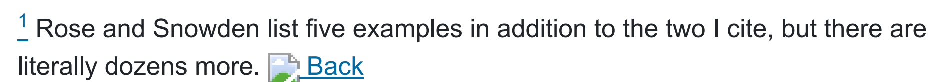
> Rosenberg (1982) provides a useful conceptual framework for explaining the trajectory of innovations in the B&L industry. He emphasizes that the unit of innovation is rarely a single invention; instead, major productivity improvements are driven by the accumulation of incremental changes that follow a path shaped by compatibility with existing practices.

For researchers working on financial innovation, Rose and Snowden's paper illustrates the importance of careful and thorough historical analysis of institutions. Many researchers writing about the crisis that started five years ago make little effort to document institutional facts and instead base theories on speculation and hearsay. In recent years, researchers have argued that until the boom of the 2000s, adjustable rate mortgages, negative amortization, and down payments of less than 20 percent were rare or limited to sophisticated borrowers. Careful analysis of the historical records shows that these loan features were no rarer before the boom than fully amortized loans were before the Depression. Another problematic claim is the popular idea that, during the 2000s, the mortgage market transitioned from the originate-to-hold model, whereby lenders hold mortgages on their books, to the originate-to-distribute model, whereby they sell the loans to investors. Again, the data shows that the originate-to-distribute model was widely used throughout the postwar era and emerged as the dominant model of lending in the U.S. in the 1980s.

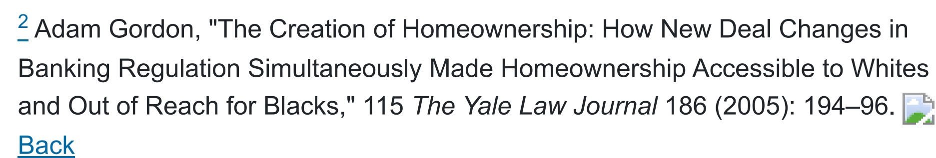
In conclusion, it is remarkable that despite the paucity of data and the fact that anyone alive with direct knowledge of pre-Depression era lending is a centenarian, Rose and Snowden know far more about mortgage markets in 1925 than many economists doing research on the mortgage market today do about mortgage markets in 2005.

By Paul Willen, senior economist and policy adviser at the Boston Fed (with Boston Fed economist Christopher Foote and Atlanta Fed economist Kristopher Gerardi)

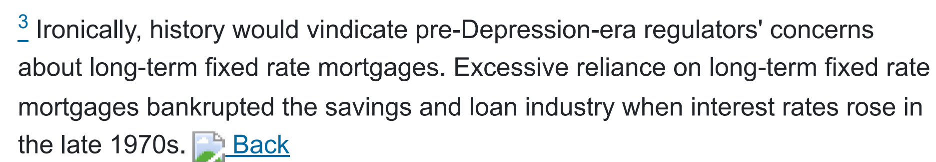
[1] Rose and Snowden list five examples in addition to the two I cite, but there are literally dozens more. Back



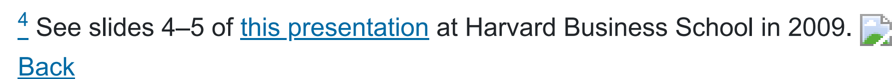
[2] Adam Gordon, "The Creation of Homeownership: How New Deal Changes in Banking Regulation Simultaneously Made Homeownership Accessible to Whites and Out of Reach for Blacks," 115 *The Yale Law Journal* 186 (2005): 194–96. Back



[3] Ironically, history would vindicate pre-Depression-era regulators' concerns about long-term fixed rate mortgages. Excessive reliance on long-term fixed rate mortgages bankrupted the savings and loan industry when interest rates rose in the late 1970s. Back



[4] See slides 4–5 of this presentation at Harvard Business School in 2009. Back



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