

US Federal Reserve Chairman Ben S. Bernanke At The Federal Reserve System's Sixth Biennial Community Affairs Research Conference, Washington, D.C., April 17, 2009, Financial Innovation and Consumer Protection

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The concept of financial innovation, it seems, has fallen on hard times. Subprime mortgage loans, credit default swaps, structured investment vehicles, and other more-recently developed financial products have become emblematic of our present financial crisis. Indeed, innovation, once held up as the solution, is now more often than not perceived as the problem. I think that perception goes too far, and innovation, at its best, has been and will continue to be a tool for making our financial system more efficient and more inclusive. But, as we have seen only too clearly during the past two years, innovation that is inappropriately implemented can be positively harmful. In short, it would be unwise to try to stop financial innovation, but we must be more alert to its risks and the need to manage those risks properly.

My remarks today will focus on the consumer protection issues raised by financial innovation. First, though, I want to say how pleased I am to join you for the sixth biennial Federal Reserve System Community Affairs Research Conference. We all want to see our communities grow and thrive, especially those that have been traditionally underserved. But the people in this room know as well as anyone that, when it comes to consumer protection and community development, good intentions are not enough. Hard-won knowledge, as exemplified by the empirical work presented here during the past two days, is required. I applaud your diligent and tough-minded research in analyzing what works and what doesn't. Only with such knowledge can efforts to spread prosperity more widely become increasingly effective.

Sources of Financial Innovation

Where does financial innovation come from? In the United States in recent decades, three particularly important sources of innovation have been financial deregulation, public policies toward credit markets, and broader technological change. I'll talk briefly about each of these sources.

The process of financial deregulation began in earnest in the 1970s, a period when stringent regulations limited competition and the range of product offerings in the markets for consumer credit. For example, Regulation Q, which capped interest rates on deposits, hampered the ability of depository institutions to attract funding and thus to extend credit. Restrictions on branching were a particularly significant constraint, as they limited the size of the market that individual depository institutions could service and thus their scope to reduce costs through economies of scale.¹ The lifting of these regulations, especially branching restrictions, allowed the development of national banking networks. With national networks, the fixed costs of product innovation could be spread over larger markets, making the development and marketing of new products more profitable.

Many public policy decisions have affected the evolution of financial products and lending practices. One particularly important example was the Community Reinvestment Act of 1977 (CRA), which induced lenders to find ways to extend credit and provide services in low- and moderate-income neighborhoods. Another important set of policies was the government's support for the development of secondary mortgage markets, particularly through the government-sponsored enterprises, Fannie Mae and Freddie Mac. Secondary mortgage markets were rudimentary and thin in the 1970s; indeed, the Federal Reserve's Flow of Funds accounts do not even record private securitization activity until the early 1980s. As secondary mortgage markets--an important

innovation in themselves--grew, they gave lenders both greater access to funding and better ability to diversify, providing further impetus to expansion into new markets and new products.

On the technological front, advances in information technology made possible the low-cost collection, processing, and dissemination of household and business financial data, functions that were once highly localized and, by today's standards, inefficiently managed.² As credit reporting advanced, models for credit scoring gradually emerged, allowing for ever-faster evaluation of creditworthiness, identification of prospective borrowers, and management of existing accounts.

All these developments had their positive aspects, including for people in low- and moderate-income communities. Prior to the introduction of the CRA, as you know, many of these communities had limited access to mortgages and other forms of consumer credit. Subsequent innovations in financial products and services, processes, and technology helped at least some underserved consumers more fully enter the financial mainstream, save money, invest, and build wealth, and homeownership rates rose significantly.

Yet with hindsight, we can see that something went wrong in recent years, as evidenced by the currently high rates of mortgage delinquency and foreclosure, especially in minority and lower-income neighborhoods. Indeed, we have come almost full circle, with credit availability increasingly restricted for low- and moderate-income borrowers. And the damage from this turn in the credit cycle--in terms of lost wealth, lost homes, and blemished credit histories--is likely to be long-lasting. One would be forgiven for concluding that the assumed benefits of financial innovation are not all they were cracked up to be.

A number of factors explain the recent credit boom and bust, including problems stemming from financial innovation. From a consumer protection point of view, a particular concern has been the sharp increase in the complexity of the financial products offered to consumers, complexity which has been a side effect of innovation but which also has in many cases been associated with reduced transparency and clarity in the products being offered. I will illustrate the issue in the context of some familiar forms of consumer credit: credit cards, mortgages, and overdraft protection.

Credit Cards, Mortgages, and Overdrafts: Some Instructive Examples

The credit card is an example of financial innovation driven by technological advance, including improvements in communications, data management, and credit scoring. When the first general-purpose credit card was issued in 1952, it represented a way to make small loans more quickly and at a lower cost than the closed-end installment loans offered by retailers and finance companies at the time. Moreover, this form of credit doubled as a means of payment. Card issuers benefited by spreading fixed costs over multiple advances of credit, over larger customer bases, across geographic areas, and among many merchants.³ From the consumer's perspective, credit cards provided convenience, facilitated recordkeeping, and offered security from loss (by theft, for example).⁴ Their use gradually expanded among American families, rising to 43 percent in 1983 and to 70 percent by 2007. Among lower-income families, usage increased from 11 percent in 1983 to 37 percent in 2007.⁵

Mortgage markets saw similar product innovations. For example, in the early 1990s, automated underwriting systems helped open new opportunities for underserved consumers to obtain traditional forms of mortgage credit. This innovation was followed by an expansion of lending to borrowers perceived to have high credit risk, which became known as the subprime market. Lenders developed new techniques for using credit information to determine underwriting standards, set interest rates, and manage their risks. As I have already mentioned, the ongoing growth and development of the secondary mortgage market reinforced the effect of these innovations, giving mortgage lenders greater access to the capital markets, lowering transaction costs, and spreading risk more broadly. Subprime lending rose dramatically from 5 percent of total mortgage originations in 1994 to about 20 percent in 2005 and 2006.⁶

Innovation thus laid the groundwork for the expansion of credit card and mortgage lending that has taken place over the past 15 years or so, as well as some other forms of credit like auto loans. However, while innovation often brought consumers improved access to credit, it also brought increased complexity and an array of choices that consumers have often found difficult to evaluate properly.

Take the case of credit cards. In the early days, a card may have allowed the user to make purchases or obtain cash advances, with a single, unchanging annual percentage rate, or APR, applied to each feature. Card fees were typically limited to an annual fee, a charge for cash advances, and perhaps fees for making a late payment or exceeding the credit limit. In contrast, today's more-complex products offer balance transfers and treat different classes of purchases and cash advances as different features, each with its own APR. In addition, interest rates adjust much more frequently than they once did, and the array of fees charged for various features, requirements, or services has grown.

More-complex plans may benefit some consumers; for example, pricing that varies according to consumers' credit risk and preferences for certain services may improve access to credit and allow for more-customized products. Growing complexity, however, has increased the probability that even the most diligent consumers will not understand or notice key terms that affect a plan's cost in important ways. When complexity reaches the point of reducing transparency, it impedes competition and leads consumers to make poor choices. And, in some cases, complexity simply serves to disguise practices that are unfair and deceptive.

Mortgage products have likewise become much more complex. Moreover, in recent years, the increased complexity has sometimes interacted with weakened incentives for good underwriting, to the detriment of the borrower. The practice of securitization, notwithstanding its benefits, appears to have been one source of the decline in underwriting standards during the recent episode. Depending on the terms of the sale, originators who sold mortgage loans passed much of the risk--including the risks of poor underwriting--on to investors. Compensation structures for originators also caused problems in some cases. For example, some incentive schemes linked originator revenue to particular loan features and to volume rather than to the quality of the loan. Complexity made the problem worse, as the wide array of specialized products made consumer choices more difficult. For example, some originators offered what were once niche products--such as interest-only mortgages or no-documentation loans--to a wider group of consumers. And, we have learned, loan features matter. Some studies of mortgage lending outcomes, after controlling for borrower characteristics, have found elevated levels of default associated with certain loan features, including adjustable rates and prepayment penalties, as well as with certain origination channels, including broker originations.⁷ Although these results are not conclusive, they suggest that complexity may diminish consumers' ability to identify products appropriate to their circumstances.

The vulnerabilities created by misaligned incentives and product complexity in the mortgage market were largely disguised so long as home prices continued to appreciate, allowing troubled borrowers to refinance or sell their properties. Once housing prices began to flatten and then decline, however, the problems became apparent. Mortgage delinquencies and foreclosure starts for subprime mortgages increased dramatically beginning in 2006 and spread to near-prime (alt-A) loans soon thereafter. By the fourth quarter of 2008, the percentages of loans 60 days past due, 90 days or more past due, and in foreclosure were at record highs.⁸

Credit cards and mortgages are not the only product classes for which innovation has been associated with increased complexity and reduced transparency. I will cite one more example: overdraft protection.

Historically, financial institutions used their discretion to determine whether to pay checks that would overdraw a consumer's account. In recent years, institutions automated that process with predetermined thresholds.

Although institutions usually charged the same amount when they paid an overdraft as when they returned the check unpaid, many consumers appreciated this service because it saved them from additional merchant fees and the embarrassment of a bounced check. However, technological innovations allowed institutions to extend

the service, often without consumers' understanding or approval, to non-check transactions such as ATM withdrawals and debit card transactions. As a result, consumers who used their debit cards at point-of-sale terminals to make retail purchases, for instance, could inadvertently incur hundreds of dollars in overdraft fees for small purchases. In response to this problem, the Board last December proposed regulatory changes that would give consumers a meaningful choice regarding the payment of these kinds of overdraft fees, and we expect to issue a final rule later this year.

Protecting Consumers in an Era of Innovation and Complexity

In light of this experience, how should policymakers ensure that consumers are protected without stifling innovation that improves product choice and expands access to sustainable credit? The first line of defense undoubtedly is a well-informed consumer. The Federal Reserve System has a long-standing commitment to promoting financial literacy, and we devote considerable resources to helping consumers educate themselves about their financial options.⁹ Consumers who know what questions to ask are considerably better able to find the financial products and services that are right for them.

The capacity of any consumer, including the best informed, to make good choices among financial products is enhanced by clear and well-organized disclosures. The Board has a number of responsibilities and authorities with respect to consumer disclosures, responsibilities we take very seriously. In the past year or so, the Board has developed extensive new disclosures for a variety of financial products, most notably credit cards, and we are currently in the midst of a major overhaul of mortgage disclosures.

In designing new disclosures, we have increased our use of consumer testing. The process of exploring how consumers process information and come to understand--or sometimes misunderstand--important features of financial products has proven eye-opening. We have used what we learned from consumer testing to make our required disclosures better. For example, our recently released rules on credit card disclosures require certain key terms to be included in a conspicuous table provided at account opening; we took this route because our field testing indicated that consumers were often already familiar with and able to interpret such tables on applications and solicitations, but that they were unlikely to read densely written account agreements.

We have also learned from consumer testing, however, that not even the best disclosures are always adequate. According to our testing, some aspects of increasingly complex products simply cannot be adequately understood or evaluated by most consumers, no matter how clear the disclosure. In those cases, direct regulation, including the prohibition of certain practices, may be the only way to provide appropriate protections. An example that came up in our recent rulemaking was the allocation of payments by credit card issuers. As creditors began offering different interest rates for purchases, cash advances, and balance transfers, they were also able to increase their revenues through their policies for allocating consumer payments. For example, a consumer might be charged 12 percent on purchases but 20 percent for cash advances. Under the old rules, if the consumer made a payment greater than the minimum required payment, most creditors would apply the payment to the purchase balance, the portion with the lower rate, thus extending the period that the consumer would be paying the higher rate. Under these circumstances, the consumer is effectively prevented from paying off the cash advance balance unless the purchase balance is first paid in full.

In an attempt to help consumers understand this practice and its implications, the Federal Reserve Board twice designed model disclosures that were intended to inform consumers about payment allocation. But extensive testing indicated that, when asked to review and interpret our best attempts at clear disclosures, many consumers did not demonstrate an understanding of payment allocation practices sufficient to make informed decisions. In light of the apparent inadequacy of disclosures alone in this case, and because the methods of payment allocation used by creditors were clearly structured to produce the maximum cost to the consumer, last year we put rules in place that will limit the discretion of creditors to allocate consumers' payments made above the minimum amount required. We banned so-called double-cycle billing--in which a bank calculates interest based not only on the current balance, but also on the prior month's balance--on similar grounds; we found from testing that the complexity of this billing method served only to reduce transparency to the consumer without

producing any reasonable benefit. These actions were part of the most comprehensive change to credit card regulations ever adopted by the Board.

Similar issues have arisen in the mortgage arena. Many of the poor underwriting practices in the subprime market were also potentially unfair and deceptive to consumers. For example, the failure to include an escrow account for homeowners' insurance and property taxes in many cases led borrowers to underestimate the costs of homeownership. In this case, allowing greater optionality--which we usually think of as a benefit--had the adverse effects of increasing complexity and reducing transparency. Restricting this practice was one of the new protections in the residential mortgage market that the Board established in a comprehensive set of rules released in July. Banning or limiting certain underwriting practices, which the new rules do for the entire mortgage market, also helps to address the incentive problems I discussed earlier. For institutions that we supervise, these incentive issues can also be addressed by requiring that lenders set up compensation plans for originators that induce behavior consistent with safety and soundness.

Where does all this leave us? It seems clear that the difficulty of managing financial innovation in the period leading up to the crisis was underestimated, and not just in the case of consumer lending. For example, complexity and lack of transparency have been a problem for certain innovative products aimed at investors, such as some structured credit products.

Conclusion

I don't think anyone wants to go back to the 1970s. Financial innovation has improved access to credit, reduced costs, and increased choice. We should not attempt to impose restrictions on credit providers so onerous that they prevent the development of new products and services in the future.

That said, the recent experience has shown some ways in which financial innovation can misfire. Regulation should not prevent innovation, rather it should ensure that innovations are sufficiently transparent and understandable to allow consumer choice to drive good market outcomes. We should be wary of complexity whose principal effect is to make the product or service more difficult to understand by its intended audience. Other questions about proposed innovations should be raised: For instance, how will the innovative product or practice perform under stressed financial conditions? What effects will the innovation have on the ability and willingness of the lender to make loans that are well underwritten and serve the needs of the borrower? These questions about innovation are relevant for safety-and-soundness supervision as well as for consumer protection.

In sum, the challenge faced by regulators is to strike the right balance: to strive for the highest standards of consumer protection without eliminating the beneficial effects of responsible innovation on consumer choice and access to credit. Our goal should be a financial system in which innovation leads to higher levels of economic welfare for people and communities at all income levels.

Footnotes

1. For a listing of these rules, see Dean F. Amel and Daniel G. Keane (1986), "State Laws Affecting Commercial Bank Branching, Multibank Holding Company Expansion and Interstate Banking," *Issues in Bank Regulation*, vol. 10, no. 2 (Autumn), pp.30-40. Research indicates that non-interest expenses, wages, and loan losses all declined following the lifting of branching restrictions leading to lower loan prices. Also, the lifting of geographic restrictions lead to larger and more diversified banking institutions. See Randall S. Kroszner and Philip E. Strahan (forthcoming), "Regulation and Deregulation of the U.S. Banking Industry: Causes, Consequences, and Implications for the Future," in Nancy Rose, ed., *Economics of Regulation*, NBER Conference Volume.

2. Board of Governors of the Federal Reserve System (2007), [*Report to the Congress on Credit Scoring and Its Effects on the Availability and Affordability of Credit*](#), (Washington: Board of Governors, August).
3. Dagobert L. Brito and Peter R. Hartley (1995), "[Consumer Rationality and Credit Cards](#)," *Journal of Political Economy*, vol. 103 (April), pp. 400-33.
4. Board of Governors of the Federal Reserve (2006), [*Report to the Congress on Practices of the Consumer Credit Industry in Soliciting and Extending Credit and their Effects on Consumer Debt and Insolvency*](#) (Washington: Board of Governors, June).
5. See note 4, *Report to the Congress on Practices of the Consumer Credit Industry*, [table 6](#); and Board of Governors of the Federal Reserve System (2007), [2007 Survey of Consumer Finances](#), Board of Governors.
6. See Chris Mayer and Karen Pence (2008), "[Subprime Mortgages: What, Where, and to Whom?](#)" Finance and Economics Discussion Series 2008-29 (Washington: Board of Governors of the Federal Reserve System, June); and Inside Mortgage Finance (2007), *The 2007 Mortgage Market Statistical Annual vol. 1; The Primary Market* (Bethesda, Md.: Inside Mortgage Finance Publications).
7. Lei Ding, Roberto Quercia, Wei Li, and Janneke Ratcliffe (2008), "[Risky Borrowers or Risky Mortgages: Disaggregating Effects Using Propensity Score Models](#)," Working Paper (Chapel Hill, N.C.: UNC Center for Community Capital). See also Elizabeth Laderman and Carolina Reid (2009), "[CRA Lending During the Subprime Meltdown \(470 KB PDF\)](#)," in *Revisiting the CRA: Perspectives on the Future of the Community Reinvestment Act*, pp. 115-33 (San Francisco: Federal Reserve Bank of San Francisco, February). Other studies do not find evidence of consistent harm from stemming from certain practices or products. See, for example, Morgan J. Rose (2008), "[Predatory Lending Practices and Subprime Foreclosures: Distinguishing Impacts by Loan Category](#)," *Journal of Economics and Business*, vol. 60 (January-February), pp. 13-32; and Christopher L. Foote, Kristopher Gerardi, Lorenz Goette, and Paul S. Willen (2008), "[Just the Facts: An Initial Analysis of Subprime's Role in the Housing Crisis](#)," *Journal of Housing Economics*, vol. 17 (December), pp. 291-305.
8. Mortgage Bankers Association (2009), *National Delinquency Survey*, MBA, March.
9. See, for instance, materials on the [Consumer Information](#) portion of the Federal Reserve's website.