Bad Rules Produce Bad Outcomes: Underlying Public-Policy Causes of the U.S. Financial Crisis

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The current global financial crisis is the worst economic crisis since the Great Depression, with no end in sight. Already, much political finger pointing has occurred, with most of those fingers pointed at supposedly greedy bankers, investors, and hedge-fund managers as well as the financial deregulation of recent decades. Governments everywhere are rushing to enact new regulatory protections to prevent another crisis of this magnitude. Yet if history is any guide, these new regulations will set up the global economy for yet another financial crisis, perhaps worse than the present one, or create regulatory straitjackets that will greatly impede economic growth.

This article will first explore the interactions between finance and human nature, for public policymaking—enacting laws and adopting regulations—that ignores or misinterprets those interactions, is doomed to fail. Indeed, policymaking that responds to symptoms and consequences of perceived problems, rather than forthrightly addressing the underlying causes of real problems, will introduce greater fragility into the financial system.

After drawing observations from an analysis of interactions between finance and human behavior, I will then examine 11 underlying public-policy causes of the financial crisis and offer recommendations for addressing those causes, or at least ameliorating their deleterious effects.

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Interactions between Finance and Human Nature

The current financial crisis represents a collision between finance and human nature. The consequences of this collision are as a predictable as the consequences of a collision between human nature and the physics of the real world. Unfortunately, politicians either seem oblivious to or deliberately ignore the interactions between finance and human nature when enacting laws and regulations affecting financial activities.

Behavioral economics seeks to explain the role of human behavior in economic decisionmaking. That is, certain aspects of human nature, of how human beings approach financial decisionmaking, are extremely critical in understanding the underlying causes of the current financial crisis. Misunderstanding how humans approach financial decisionmaking leads to policymaking that creates a frequently refreshed hothouse environment in which financial crises flower every decade or so.

To put this point another way, most people make financial decisions that seem rational to them *at the time* even though the aggregate effect over time of thousands or millions of similar decisions may have disastrous macroeconomic or social consequences. In particular, if people, as individuals or as managers of organizations, make decisions that appear to them to be in their self-interest under the laws and regulations in effect at that time ("the rules of the game"), but the product of those decisions, when viewed after the fact, is not desirable, then clearly the rules of the game had a negative impact on that decisionmaking. Hence, bad rules produce bad outcomes.

The following is a discussion of five aspects of human behavior that relate to finance and therefore must be taken into account when establishing the rules of the game as they apply to financial transactions and outcomes. Alter the rules of any game—baseball, football, basketball, or finance—and the players will alter the way they play the game. Key to improving the game is to give players an incentive to act in their own self-interest while also maximizing the outcome of the game for all concerned.

Arbitraging the Rules of the Game in an Attempt to Gain an Advantage

Trying to arbitrage the rules of the game—interpreting the rules in a manner that seems to favor the decisionmaker—is a very understandable human trait. After all, successful, lawful arbitrages reduce costs, which in turn increases the profits, or capital, created by the

transaction. Lawfully arbitraging the Internal Revenue Code and other tax laws is so widespread, and readily accepted, that insufficient thought is given to the distorting effect on economic decisionmaking of those arbitraging activities.

Laws and regulations governing financial activities and institutions present another significant arbitraging opportunity. It is nearly certain that in the aftermath of the current crisis Congress will enact new laws intended to prevent another crisis, financial "reforms" that most likely will contain the seeds of the next financial crisis.

Attempting to Profit from a Positive-Sloping Yield Curve

One aspect of interest rates is that much of the time short-term interest rates are lower than long-term interest rates—that is, most of the time, the interest-rate yield curve has a positive, or upward, slope from left to right, from short term to long term. Hence, an investor, when financing a long-term financial asset, such as a 30-year home mortgage, will often earn a higher profit by financing that asset with short-term funds that are frequently rolled over or refinanced during the life of the asset than by financing the asset with equity capital or with debt carrying a maturity comparable to the maturity of the asset. Financing long-term financial assets with short-term debt is called "maturity mismatching." While seemingly more profitable, maturity mismatching is quite risky because short-term interest rates sometimes rise above long-term rates.

The savings-and-loan (S&L) crisis of the early 1980s represents a classic example of the dangers of maturity mismatching, yet its lessons seem to have been quickly forgotten, for widespread maturity mismatching has occurred in recent years, as evidenced by the liquidity squeezes many investors and financial institutions have experienced, notably in auction-rate securities and structured investment vehicles (SIVs). Despite the readily evident dangers of maturity mismatching, there is good reason to believe that future financial players will ignore history, again, and try to profit from maturity mismatching.

Overextrapolating Trends

One widespread aspect of human nature is to overextrapolate trends, especially when the trend is wealth enhancing. This tendency is especially evident with regard to asset prices—stock prices and the value of homes. People like good news because that usually means their income

and wealth are rising. Consequently, most people tend to tune out bad news and contrarian points of view during good times and good news and contrarian points of view during bad times. This tendency to overextrapolate magnifies swings in economic activity.

While the tendency to overextrapolate is quite evident among individuals in making personal financial decisions, it also occurs in businesses and other organizations. It is difficult for people within organizations, and especially those in middle management or in risk-management positions, to counter conventional thinking about current market trends. For example, news accounts have reported on how senior management at Fannie Mae and Freddie Mac ignored warnings from lower-level personnel that home prices had become overinflated. Fannie and Freddie are now in government conservatorship, similar to Chapter 11 bankruptcy.

Getting Caught Up in Herd Behavior

Overextrapolating trends leads to another aspect of human behavior—herd behavior, which seems to become more intense the further a trend goes without reversing. Charles Mackay was an early observer of this behavior in his 1841 book, *Extraordinary Popular Delusions and the Madness of Crowds*. Many of Mackay's observations are still highly relevant today.

Interestingly, it appears that herd behavior is quite prevalent among more financially sophisticated folks, if not more so, than it is among the less sophisticated financially. Arguably, herd behavior among financial sophisticates has been strengthened by financial engineering since rigid mathematical formulae often are premised on simplistic, untested, yet widely held assumptions about what happens at the extremes of statistical distributions. Despite numerous financial explosions rooted in financial engineering, such as the popularity of portfolio insurance prior to the stock-market crash of 1987, the meltdown of Long-Term Capital Management in 1998, and the more recent failure of credit-rating models, rapid increases in computing power and seemingly more powerful quantitative techniques suggest that computer-driven herd behavior is alive and well and perhaps more dangerous than ever.

Placing Excessive Reliance on Expert Opinions

Another aspect of human behavior that bears on financial decision-making is extensive reliance on expert opinions, specifically accounting

opinions rendered by government-certified public accountants (CPAs) and government-endorsed credit rating agencies, notably the Big Three—Moody's, Standard & Poors, and Fitch.

The concept of the division of labor, while quite valid, by its very nature fosters the creation of highly specialized expertise, such as judging the reasonableness and fairness of financial statements or likelihood that principal and interest on a particular debt security will be paid when contractually due. In an increasingly complex financial world, investors and financial managers place much greater reliance on the valuations and evaluations of experts and unrelated third parties than was the case in earlier, simpler days.

While the division of labor can justify much of today's reliance on expert opinion, some of that reliance stems from two other human characteristics—laziness and the power of endorsement. Financial and legal analysis of complex financial transactions is hard work; it is mentally taxing; and it can take a lot of time, and therefore is expensive. How much easier it is to rely instead on Moody's opinion that a certain tranche of a collateralized debt obligation (CDO), which itself is a securitization of other CDOs, is of an AAA credit quality, or that because one of the Big Four CPA firms has given a clean opinion on a company's financial statements, that it is not necessary to spend time trying to decipher the footnotes to those financial statements. By the same measure, the mutual fund's investment committee can confidently be told that a certain CDO investment is safe because the Big Three rating agencies gave it an AAA rating even though, as a practical matter, the instrument could only be sold in the best of times for a 20 percent discount, or the bank loan committee can rely on a borrower's financial statements because one of the Big Four accounting firms gave them a clean opinion.

The analytical foundation for much of the global financial system is now built on the paid-for opinions of just seven firms—the Big Three rating agencies and the Big Four accounting firms. Ultimately, the extent of the widespread reliance placed on those seven firms is a product of human nature. As recent events have demonstrated, that has been a very dangerous reliance.

Observations to Be Drawn from These Aspects of Human Behavior

Numerous observations can be drawn from the preceding analysis of the interactions between finance and human behavior in iden-

tifying and analyzing the underlying public-policy causes of the present financial crisis. This analysis can be the basis for developing a public-policy response to those public-policy causes that will reduce the frequency and severity of future financial crises. These observations are summarized as follows:

- Align the self-interest of individuals as well as organizations with the desired macroeconomic and society outcomes. Given that decisionmakers will inevitably try to "game" laws and regulations in a manner that will maximize their perceived well-being, it is foolhardy to impose rules that give decisionmakers an incentive to take actions that they perceive to be in their best interest, but produce a macroeconomic and societal disaster. Detailed prescriptive and proscriptive rules intended to channel or restrict decisionmaking will inevitably create new arbitraging opportunities that will produce yet more unintended and undesirable outcomes.
- Rely on incentives that launch self-correcting mechanisms in the financial marketplace sooner rather than later so that individual decisionmakers, and therefore the financial markets, begin to steer away from disaster before the markets run off the cliff.
- Minimize reliance on expert opinions that can used to justify investment and credit decisions.
- Seek to minimize complexity in financial instruments and transactions. Complexity oftentimes is the product of tax and regulatory arbitrage as lawyers, accountants, and financial engineers devise techniques to game the rules of the game in a manner that seems at the time to be most favorable to their self-interest.
- Recognize that technology, specifically computers and quantitative techniques, has made it increasingly easier and cheaper to construct and implement complicated financial instruments and transactions that appear to successfully game existing rules.

Causes of the Financial Crisis

The following analysis discusses 11 underlying public-policy causes of the current financial crisis in light of the interaction between finance and human behavior. While focused on the United States, the epicenter of the current crisis, these underlying causes are widespread throughout the world.

The Internal Revenue Code

The Internal Revenue Code, specifically the laws governing the taxation of personal and corporate income, are perhaps the single most important underlying cause of the financial crisis. Taken together, the tax laws promote overspending and undersaving by individuals and excessive leverage by both individuals and corporations.

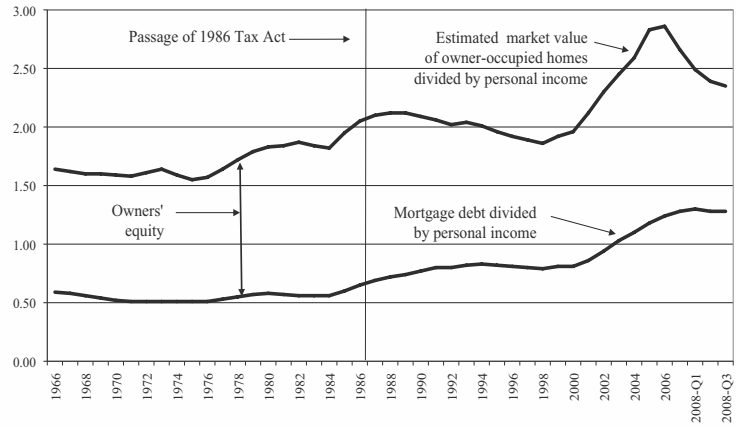
The greatest single factor giving individuals an incentive to overleverage is the tax deductibility of home mortgage interest, and for corporations the combination of the tax deductibility of interest paid on debt and the double-taxation of dividends—once at the corporate level and again at the individual level. Given this tax-code favoritism toward debt, it is hardly surprising that individuals will borrow a much higher percentage of a home purchase price than would be the case if mortgage interest was not tax-deductible. Likewise, corporations have a powerful incentive to lever up, that is, to increase the ratio of their debt to their equity capital, thereby boosting the rate of return on their equity capital.

Looking first at homeowners, data on the estimated market value of homes and mortgage debt on those homes illustrates the likely impact of the Tax Reform Act of 1986 on homeowners and their financial balance sheets. That act ended the itemized deduction of interest expense except for mortgage interest. Consequently, home mortgage debt became more tax-favored relative to other forms of consumer debt, such as car loans and credit-card balances. Not surprisingly, after remaining relatively constant over the preceding 15 years, the mortgage-debt/market-value-of-homes ratio began a steady rise after 1985, as shown in Figure 1.

For corporations (including banks) not eligible for Subchapter S earnings pass-through treatment, the after-tax cost of equity capital, say 12 to 15 percent, is substantially greater than the after-tax cost of debt, which generally is in the 3 to 5 percent range. This cost differential gives corporations a powerful financial incentive to fund as much of their balance sheet as possible with debt rather than equity capital. This is especially true for banks and other financial intermediaries, which often enjoy a relatively lower cost of debt due to their substantial funding reliance on insured deposits.

Imagine that corporate profits were not taxed and instead dividends were taxed only at the recipient level. The after-tax cost of debt and deposits would rise while the cost of equity capital might decline some-

Figure 1
Growth in Estimated Market Value of Owner-Occupied Homes and Mortgage Debt Relative to Personal Income
(Ratio Adjusted for Changes in the Home-Ownership Rate)



Sources: Board of Governors, Federal Reserve System; Bureau of Economic Analysis, Department of Commerce; Bureau of the Census, Department of Commerce.

what due to the elimination of the tax penalty on dividends. This change would make equity capital less expensive relative to debt and deposits, which would reduce the incentive to finance balance sheets with a high degree of leverage. Less leveraged bank balance sheets are safer balance sheets because there is a deeper capital cushion to protect a bank's depositors and other creditors from any loan and investment losses the bank incurs, thereby greatly reducing the likelihood that the bank will become insolvent. At a minimum, the Internal Revenue Code should be amended to permit corporations to deduct from their taxable income the cash dividends they pay.

Space does not permit a discussion of other tax-code distortions that have contributed to the housing crisis, including the use by banks and other financial intermediaries of net operating losses to obtain refunds of previously paid income taxes and to shelter taxable income in future years— essentially an after-the-fact subsidy of bad lending paid for by good lenders—and the favorable tax treatment of

certain lenders, notably credit unions and the three housing-finance government-sponsored enterprises (GSEs)—Fannie Mae, Freddie Mac, and the Federal Home Loan Banks (FHLBs).

Another topic for investigation—the impact on the valuation of common stocks if tax-deductible dividends lead to higher dividend payout ratios, thereby increasing the extent to which a stock is valued based on what it has actually earned, as reflected in dividends paid in cash, versus what it might earn in the future, based on reinvesting its retained earnings, as reflected in stock-price appreciation, which is subject to a lower capital-gains tax rate.

Prescriptive and Proscriptive Safety-and-Soundness Regulation

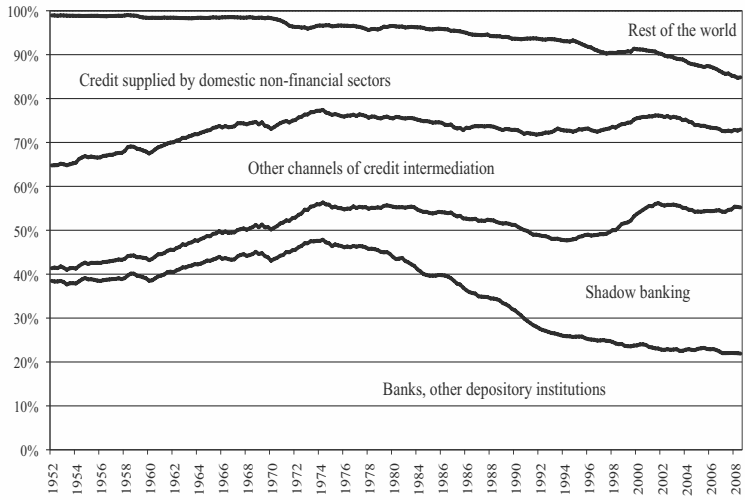
Banks and other depository institutions, like insurance companies and broker-dealers of securities, are subject to detailed safety-and-soundness regulations intended to keep these institutions solvent even in the toughest of economic times. Key to this regulation are the multiple capital ratios to which banks and thrifts are subject, centered increasingly on the international Basel II risk-based capital standards. Additionally, U.S. banks, but not banks in other countries, are subject to a much simpler leverage-ratio test, calculated by dividing a bank's capital by its total assets not adjusted for risk.

The practical effect of these capital regulations is that they only crudely reflect the credit and liquidity risks of specific types of assets. That crudeness opened the door to regulatory arbitrage and the emergence and tremendous growth of "shadow banking" in recent decades. Shadow banking consists of those credit-intermediation channels that are much less subject to safety-and-soundness regulation, specifically with regard to minimum capital requirements. Types of shadow banking include asset securitization, the money-market mutual funds, the GSEs, finance companies, SIVs, and broker-dealers.

Federal Reserve flow-of-funds data clearly demonstrate a tremendous shift of credit intermediation away from banks and depository institutions as shadow banking has grown (Figure 2).

Specifically, regulatory arbitrage has shifted away from banks those assets that the marketplace deems can be funded more cheaply outside of banks even after taking into account the cost of executing the arbitrage, such as the substantial expense of securitizing assets. In particular, shadow banking expends real resources to avoid regulatory costs, and specifically the cost of excess equity capital requirements made more

Figure 2
Changes in Credit-Intermediation Shares
(Quarterly Data from Q1 1952 to Q3 2008)



Source: Board of Governors, Federal Reserve System.

expensive by the heavy tax burden on equity capital.

Interestingly, the current financial crisis suggests that the arbitragers may have underestimated their costs, specifically credit losses, which could lead, at least for a time, to a decline in shadow banking as credit intermediation shifts back into the banking sector of the economy. Congress may reinforce that shift through statutory changes designed to extend bank-like regulation, and specifically capital regulation, to shadow banking. However, lawyers and financial engineers, using existing regulations as a roadmap, will aggressively seek new ways to completely escape or at least minimize those new regulatory burdens, setting up the United States, and perhaps even the global financial system, for the next financial crisis, a few years hence. This regulatory arbitraging is why regulations can never be proactive—the rule makers will never get ahead of the rule evaders.

Discouraging Maturity Matching in Funding Assets

As noted earlier, it is human nature to try to maturity mismatch so as to profit from a positive-sloping yield curve. However, as the S&L

crisis and more recently SIVs and auction-rate securities have demonstrated, maturity mismatching can lead to insolvency and financial destruction. Two public policies motivate maturity mismatching: the punitive taxation of equity capital and the regulatory discouragement of "covered bonds."

First, taxing the returns on equity capital creates an incentive to maturity mismatch so as to earn an offset to that taxation while also trying to operate with greater leverage—a lower capital percentage. Equity capital serves to absorb losses, including when maturity mismatches blow up. The deeper the equity capital cushion on a financial institution's balance sheet, the greater the capacity to absorb those losses.

Second, banks and other financial institutions should issue covered bonds to safely fund long-term financial assets, such as 30-year fixed-rate home mortgages, because the covered bonds also are long-term, fixed-rate instruments that reduce, if not eliminate, maturity differences between the issuer's assets and the funding of those assets. Covered bonds are merely on-balance-sheet borrowings secured by specific assets that have been placed in a "covered pool" on the bank's balance sheet. The bank or other institution issuing the covered bonds is then obligated at all times to maintain a cover pool slightly exceeding the amount of covered-bonds outstanding, say 105 percent or 107 percent of the bonds outstanding, with high-quality assets that always meet criteria specified in the bond indenture for the covered bonds.

European financial institutions have issued covered bonds for more than 200 years. Today, approximately $3 trillion of covered bonds are outstanding. However, covered bonds have been issued only in recent years, in a very limited fashion, by Bank of America and Washington Mutual; the liability for the Washington Mutual bonds has since been assumed by JPMorgan Chase. While the U.S. Treasury Department (2008) has been quite supportive of covered bonds, the Federal Deposit Insurance Corporation (FDIC 2008), has been excessively conservative in its attitude toward covered bonds, specifically in sharply limiting the ability of FDIC-insured banks and thrifts to issue covered bonds because of the FDIC's unwillingness to guarantee that should a bank become insolvent, the covered bonds will continue to be secured by the assets in the cover pool.

Covered bonds will not become a meaningful source of mortgage funding in the United States until such time as the either the FDIC

takes a more positive attitude toward covered bonds or bank holding companies (regulated by the Federal Reserve) are authorized by the Fed to issue covered bonds. If the regulators will not open the door to greater covered-bond issuance, Congress needs to do that.

Fair-Value Accounting

Accounting rules for U.S.-based businesses, including banks and other financial institutions, are established by the Financial Accounting Standards Board (FASB), a semi-official organization overseen by and acting under the imprimatur of the U.S. Securities and Exchange Commission (SEC). As such, issuers of financial statements certified by CPAs must abide by the accounting rules that FASB has established, called Generally Accepted Accounting Principles, or GAAP.

Fair-value accounting is a fancy term for valuing financial assets, such as mortgage-backed securities (MBSs) or CDOs, for what they supposedly can be sold for at a particular point in time. While there are times when financial assets can be sold for more than their purchase price, producing a gain, during distressed times many assets can only be sold for much less than what they cost. That has been true especially since the summer of 2007, when the U.S. financial markets began experiencing great distress, and the market value of many financial assets, notably complex securities such as MBSs and CDOs, began losing their marketability, or liquidity.

The accounting rule governing fair-value accounting is FAS No. 157, Fair Value Measurements. This rule states that a financial asset must be measured at its fair market value even if no market exists for the asset because markets have frozen up for complex securities, which, even in the best of times, rarely trade or trade only at a substantial discount from what they cost because so few of that particular asset even exist—that is, FAS 157 is premised on the notion that an asset is marketable even if it is not. Consequently, a financial institution has to write down the value of a financial asset to a theoretical market value even though (1) no market exists for the asset, except at a deep price discount; (2) the institution has no intention of selling the asset for far less than what it believes the asset eventually will return to the institution when it matures; and (3) the institution has the financial capacity to hold the asset until maturity.

Writing down the value of an asset correspondingly reduces its

owner's equity capital; sufficiently severe write-downs can render a financial institution insolvent—the amount of the write-downs exceeds the institution's equity capital. This is one reason why a bank or other financial institution needs a deep equity capital cushion—to absorb accounting-driven asset write-downs. Numerous financial institutions have been rendered insolvent in recent years because of FAS 157 even though they otherwise were profitable and at least adequately capitalized. To some extent, fair-value accounting is anything but fair as many of the losses banks and other financial institutions have reported have been solely the result of a government-sanctioned accounting convention rather than the result of actual buying and selling in the financial marketplace.

Fair-value accounting is not without merit, but it fails to account for the ability of a financial institution to hold a financial asset to maturity because it has the funding in place—either debt or equity or a combination thereof—to do so. That is, the asset in question should be viewed as one element of the institution's assets and liabilities and not valued as if was a distinct asset. Instead, where the institution has the funding in place, such as with equity capital or a covered bond, what should be valued is the net cash flow generated from the asset and its related funding, for that essentially is how the stock market values the equity capital in any kind of business enterprise. In other words, the financial institution should be viewed as a whole rather than merely a collection of discrete assets and liabilities.

Enforcement of Credit-Default Swaps Where There Is No Insurable Interest

Credit-default swaps (CDSs) represent one of the largest and least understood components of the global financial system, with estimates of the amount of CDSs outstanding running as high as $62 trillion. That number and the opacity of the CDS marketplace—who ultimately holds CDS risk—has raised significant concern about the systemic risk CDSs pose, leading to cries for greater regulation of CDSs.

CDSs effectively represent credit insurance or credit guarantees. As such, CDSs enable investors in debt instruments to shift some of their credit-risk exposure—the risk of default or a delay in payment of principal and interest—to other parties. The CDS problem emerges where neither party to a CDS contract has an insurable interest in the debt named in the contract. In these circumstances

the CDS is nothing more than gambling on the fate of debt issued by an unrelated party—comparable to taking out a life insurance policy on someone with whom you have no relationship or on a building you neither own nor have a mortgage lien on.

The simple, straightforward way to deal with the CDS problem is to extend to CDSs the public policy that has long applied to life and property insurance policies—namely, the policy is unenforceable (i.e., the insured cannot collect on the policy) if the insured has no insurable interest in the person or property which has been insured. This restriction would limit a CDS to its intended purpose: to enable lenders and investors in debt securities to shift some of their credit risk to other parties who in turn might reinsure some of that risk with yet other parties, but every party in the insurance chain would, directly or indirectly, be contractually linked to the insured debt security should an event occur that would trigger a payment under the CDS.

Mispriced Government Deposit Insurance

Another major underlying public-policy cause of the current financial crisis is mispriced government deposit insurance—not the existence of deposit insurance, but its mispricing. There are two federal deposit insurers, the FDIC and the National Credit Union Share Insurance Fund (NCUSIF) for federally insured credit unions.

One purpose of pricing is to discourage the wasting of assets of any sort, whether human labor, capital, or raw materials. In insurance, proper pricing is intended to minimize moral hazard—that is, the tendency of some insureds to act in a reckless or fraudulent manner so as to increase the likelihood of collecting on the insurance. The FDIC has made some attempt to implement risk-based deposit insurance; the NCUSIF has not. Unfortunately, the FDIC's risk-based pricing falls short in two major regards. First, FDIC premiums are based on lagging measures of insolvency risk, such as the amount of capital a bank has, not leading measures of insolvency risk, such as excessively risky lending practices that later lead to loan losses and capital shrinkage.

Second, while the FDIC calculates its supposedly risk-sensitive premiums on a bank-by-bank basis for the least risky banks, it does not perform a bank-by-bank premium-rate calculation for the riskier banks whose deposits it insures, yet these are the banks most likely to fail. The FDIC's failure to properly price deposit insurance has provided an incentive for some banks to engage in extremely risky

lending, notably making high-risk mortgages and providing loans to the home-construction industry, which contributed to the overproduction of new homes, adding to the glut of homes currently for sale.

Third, and most troubling, the FDIC and its fellow regulators have been extremely slow in closing banks that clearly are failing, which is why the FDIC has experienced enormous losses in the banks that failed in 2008. The total loss to the FDIC in 17 failures where the amount of loss has been announced could reach $13 billion, equal to 40 percent of the deposits in these banks. Because the FDIC is financed entirely by the banking industry, that loss will be borne by the industry, through higher deposit insurance premiums. This is an after-the-fact subsidy, comparable to the net operating loss subsidy discussed above, which flows from sound, well-managed banks to the depositors of badly managed banks.

Had deposit insurance been priced in recent years based on leading indicators of bank risk, banks would have been deterred from engaging in the risky lending that a reckless minority of banks did. A crisis could still have emerged, based on the reckless lending that occurred outside the banking industry and the securitization of high-risk loans, but confidence in the banking system itself would not have been shaken and the federal government would not now be investing at least $250 billion of equity capital in the banking industry.

First Amendment Protection for the Credit-Rating Agencies

As noted above, it is human nature to rely upon expert opinions when making decisions about complicated matters. In the case of investment securities, such as MBSs and CDOs, the greater the complexity of these securities, the greater the likelihood that investors will rely on ratings assigned by the credit-rating agencies in making investment decisions. This reliance will be based on the assumption that the rating agencies have sufficiently investigated the security, and any underlying mortgages, MBSs, or CDOs collateralizing the security, in order to form a sound judgment about their investment quality.

The rating agencies have long enjoyed a First Amendment protection from damages lawsuits brought by investors who relied upon a bond rating to make an investment that later went bad. The theory behind this protection is that the ratings agencies merely express a constitutionally protected opinion and that subjecting the rating

agencies to damages lawsuits would raise constitutional free speech issues. Interestingly, CPA firms express opinions, too, yet they are routinely sued for opinions they have rendered on financial statements that turn out to have materially misrepresented a company's financial condition. Damages paid by CPA firms have mounted into the hundreds of millions of dollars and essentially drove Arthur Anderson & Co. into bankruptcy. A factor in CPA liability to those who relied upon financial statements attested to by a CPA is the fact that a CPA firm is paid by the parties whose financial statements the CPA firm audited.

While rating agencies are not always paid by the issuer of the debt securities that they are rating, the fact is that the agencies almost always are paid by the issuer of complex debt securities, such as multi-tranche MBSs, CDOs, CDOs-squared, and the like. In these circumstances, the rating agencies become part of the investment underwriting process; i.e., they become a party to the issuance of the securities, usually by at least implicitly advising the debt issuer as to what type of investment structure will get a desired level of rating—AAA, A, BBB, B, and so on. If the ratings agencies could be sued for damages (essentially, a loss in the value of an investment) for ratings of complex, opaque securities that materially overstated the investment quality of an asset, the agencies would face this choice—decline to rate complex securities or soon be sued into bankruptcy. Absent ratings, complex securities would quickly disappear from the financial marketplace because most investors, certainly the prudent ones, will not purchase unrated securities.

Theoretically, investors could pay to have complex securities rated, utilizing publicly available data, but such ratings have not emerged because securities underwriters need to know what rating will be assigned to each tranche of a complex securities offering before it is offered for sale. However, this creates a chicken-or-egg situation—investors are unwilling to pay for that credit evaluation since the security may not be offered for sale if the rating does not make the security a worthwhile investment. Therefore, a very effective way to keep overly complex, difficult-to-understand debt securities out of the financial marketplace is to bar a First Amendment defense to the rating agencies when they are paid by the issuer of a security, should the security later fail to perform in accordance with the reasonable expectations investors attach to a particular rating.

Government-Sponsored Enterprises

Fannie Mae, Freddie Mac, and the Federal Home Loan Banks discussed earlier, contributed greatly to the U.S. housing and financial crises in several regards, with Fannie and Freddie (F&F) providing by far the greater contribution. First, F&F enhanced the legitimacy of mortgage securitization, which created a much more favorable environment for securitizing the subprime mortgages that F&F would not touch until recent years. Second, F&F accumulated huge portfolios of mortgages and MBSs (largely their own MBSs) that were leveraged off of extremely thin capital bases that subsequent events have shown were significantly overstated due to overvalued assets, notably deferred tax assets. Third, F&F engaged in significant maturity mismatching, which they tried to hedge though interest-rate swaps and other forms of derivatives contracts.

F&F could not have reached these extremes—in size, leverage, or maturity mismatching—absent their GSE status. The housing crisis has revealed how unsound their business models were. The only questions now are how much will F&F's problems cost the taxpayers and what their fate will be—privatization, nationalization, liquidation, or what? Given the growing recognition of the moral hazard inherent in the securitization process and the increasing belief that lenders should retain much, if not all, of the credit risk of the mortgages and other loans they make, the economic viability of F&F's credit-guarantee business—guaranteeing MBSs owned by third parties—is questionable.

The FHLBs have performed relatively better than F&F because they essentially are bankers' banks, providing a service for smaller banks that smaller banks are not large enough to do directly— namely, access longer-term debt in the capital markets. Large banks that can directly access the capital markets still find the FHLBs a low-cost source of funding because of the favorable rates at which the FHLBs, as GSEs, can raise funds. However, the presence of the FHLBs in the housing markets may have inhibited the emergence of a U.S. covered-bond market. Federal Reserve Chairman Ben Bernanke (2008) stated recently, "As a source of financing, covered bond issuance today is not generally competitive with FHLB advances." Hopefully, Chairman Bernanke will be proven wrong.

The Overpromotion of Home Ownership

One of the most serious underlying causes of the financial crisis has been the overpromotion of home ownership. This overpromotion took the form not only of equating home ownership with motherhood, apple pie, and living the American Dream, but also through numerous government-sponsored initiatives to reduce downpayment requirements ("skin in the game"), pressure on banks to lend in certain neighborhoods through the requirements of the Community Reinvestment Act (CRA), and a multitude of government-assistance programs, such as Federal Housing Administration-guaranteed and Veterans Administration-insured loans. This overpromotion also created a fertile environment for subprime lending, i.e., extending loans to homebuyers with marginal creditworthiness; relaxed lending standards, as evidenced in limited-documentation and no documentation loans (sometimes called "Alt. A" and "liar loans"); and flexible repayment plans, such as option ARMs (adjustable rate mortgages). Taken together, these innovations led to an increase in homeownership among those who most likely cannot afford to own a home.

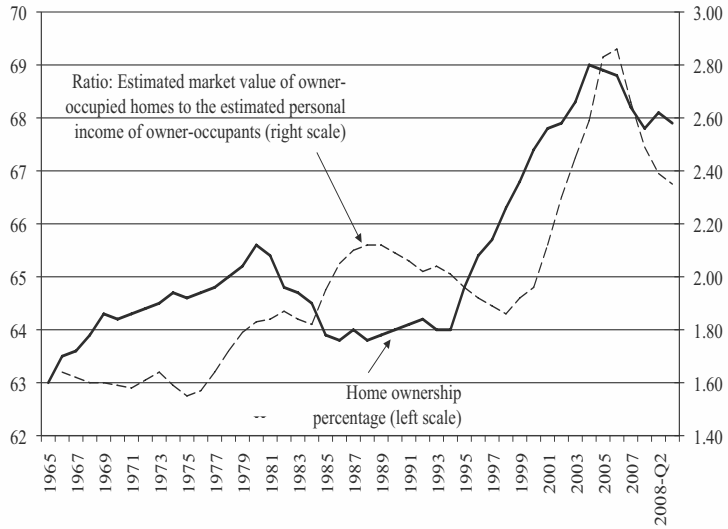
As the solid line in Figure 3 shows, the national homeownership rate began an uninterrupted climb from 64 percent in 1994 to 69 percent in 2004 after fluctuating in a fairly narrow range, 63 percent to 65.6 percent, over the previous 30 years. That rise parallels a similar rise in the ratio of the estimated market value of owner-occupied homes to the personal income of those homeowners, which commenced in 1998 and peaked in 2006. The two-year lag in the rise of the market value/personal income ratio probably reflects the time it takes for increased housing demand to be reflected in the Federal Reserve estimate of market values shown in Figure 3.

Another way to view this chart is to ask how bad the housing crisis would be today had not numerous public policies driven the homeownership percentage to unsustainable levels. The public-policy challenge today is to permit both lines in Figure 3 to revert to more sustainable levels. Unfortunately, current policy initiatives seemed aimed at propping up both homes prices and the ownership rate.

The Glass-Steagall Act of 1933

The Glass-Steagall Act of 1933, which was enacted at the bottom of the Great Depression, was premised on the belief that the mixing

Figure 3
Relationship between Changes in the Home-Ownership Percentage and the Ratio of the Estimated Market Value of Owner-Occupied Homes to the Estimated Personal Income of Owner Occupants
(Annual Data, Except Quarterly for 2008)



Sources: Board of Governors, Federal Reserve System; Bureau of Economic Analysis, Department of Commerce; Bureau of the Census, Department of Commerce.

of commercial and investment banking was a key reason why more than 9,000 banks failed in the 1930–33 period. However, that mixing did not cause those bank failures—most of these failures were of tiny banks, the product of branching restrictions and prohibitions, and the severe price deflation of the 1929–33 period.

Despite the lack of any meaningful rationale for the Glass-Steagall Act, it remained on the books largely intact until major portions of it were repealed by the Gramm-Leach-Bliley Act of 1999 (GLB). However, during the intervening 66 years, the investment banking industry grew and prospered alongside commercial banking. Despite the passage of GLB, the investment-banking industry largely remained intact because those banks did not want to become financial

holding companies regulated by the Federal Reserve—they much preferred the easier SEC oversight.

Had Glass-Steagall never been enacted, had it been repealed much earlier than 1999, or had GLB forced or sufficiently motivated the Big Five investment banking firms[1] to become financial holding companies and to have then moved into commercial banking by buying or merging with commercial banks, these firms might not have become as focused as they did on buying, securitizing, and trading subprime, Alt-A, and option-ARM mortgages. While the large commercial banking companies also engaged in mortgage securitization and originating nonprime mortgages, they did not get as deeply involved in those activities as did the investment banks. Arguably, then, had the separate, distinct investment-banking industry been melded into mainstream commercial banking years ago, today's mortgage and financial crisis would not be as severe as it is, or may not have occurred at all.

Monetary Policy

Monetary policy—which essentially consists of the short-term interest-rate signal the Federal Reserve periodically gives—played a role in inflating the housing bubble early in this decade as the Fed's Federal Open Market Committee lowered the federal funds rate target (FFRT) from 6.5 percent in May 2000 to 1 percent in June 2003 through 13 rate cuts, held the FFRT at the 1 percent level for a year, and then raised the FFRT to 5.25 percent by June 2006 through 17 rate hikes. Longer-term mortgage rates did not experience a dip of that magnitude. Consequently, the gap between short-term and long-term interest rates was especially wide in the 2002–04 period, which had the effect of making ARMs relatively more attractive than when the FFRT is higher. Home equity lines of credit also became more appealing since their rates generally are tied to the prime rate, which floats rigidly at 3 percent above the FFRT.

That wide interest-rate spread motivated many homeowners, particularly those stretching to buy a home or refinance a mortgage, to take out an ARM, an "exploding ARM" (an ARM with a low teaser rate for a few years, after which the rate jumps significantly), or an option ARM. These ARMs had a two-prong effect—they

[1]Goldman Sachs, Merrill Lynch, Morgan Stanley, Lehman Brothers, and Bear Stearns.

pumped an enormous amount of mortgage debt into the housing market, with mortgage debt more than doubling over six years, from $4.82 trillion at the end of 2000 to $9.87 trillion at the end of 2006—a $5 trillion increase—which helped to fuel a $10 trillion, 85 percent increase in the estimated market value of owner-occupied homes. About 13 percent of the mortgage-debt increase—$660 billion—was accounted for by junior mortgages (often used to finance a portion of a downpayment) and borrowing under home equity lines of credit.

One can only speculate about the inflationary effect of monetary policy, and specifically the 2000 to 2006 dip and then increase in the FFRT. Although the FFRT cuts were an economic stimulus, it also appears that they helped to inflate the housing bubble but then in the middle of the decade the FFRT hikes let some air out of the bubble as it moved up to its recent peak of 5.25 percent. Of course, this rate yo-yoing continues, with rate cuts since June 2006 pulling the FFRT below 1 percent. What effect that low rate will have on the recovery of the housing market is anyone's guess.

Conclusion

Many commentators claim that financial deregulation since 1980 caused the U.S. housing crisis, leading to the global financial crisis. Yet, they fail to convincingly identify specific deregulatory actions that contributed to those crises. At the same time, numerous public-policy causes of the crisis, causes which still are in place, go unexamined.

As President Obama and the new Congress begin to consider reform of the structure of the financial services industry, reform of the structure of the financial regulatory agencies, and reform of the manner in which financial intermediaries are regulated, one hopes that some consideration will be given to addressing the causes discussed in this article, however painful, politically and ideologically, that might be.

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