



## The Credit Crunch of 2007–08: Lessons Private and Public

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*The current financial crisis has much in common with past crises. Poor investment strategies with respect to risk as well as poor evaluation have contributed to the current crisis. This paper presents the lessons to be learned by the private and public sectors. Why do crises keep happening? Mismatch of assets—long-term liabilities offset by short-term assets—can be profitable but is risky, and robust strategies must be able to cope with the risk. A number of measures can and should be taken by private financial entities for their own sake as well as that of the entire financial system. With respect to the public sector, one should be wary of expanding the role of regulation. What should be done, however, is to make sure that public policies are pursued through on-budget spending and taxation rather than through off-budget initiatives, such as encouraging government-sponsored enterprises to accumulate subprime debt in order to further public policy objectives. It would also be useful to reduce overall levels of private debt by reducing tax incentives to borrow.*

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Our topic is “Lessons of the Credit Crunch of 2007–08.” Unfortunately, I suspect that in the title we will have to change 2007–08 to 2007–09. This mess is not going to be resolved quickly, and it

contains lessons for both the private and public sectors.

### 1. Lessons for the Private Sector

Anyone familiar with the scholarly literature on financial crises knows that our recent—and unfortunately ongoing—experience has many general characteristics familiar from past crises. How can the private sector make the same mistakes over and over again? The current crisis, in particular, is in some ways a supersized version of what happened to Long-Term Capital Management in 1998, which was not that long ago and certainly familiar to all who were in senior management in major financial firms at the outset of this crisis.

The root of the current problem is poor credit quality. Too many financial institutions loaded up on too much subprime mortgage paper without adequate assessment of the credit risk. But the issue goes beyond poor credit evaluation, because the strategies behind these portfolios were risky from the beginning. Credit evaluation is hard, and we cannot depend only on better credit evaluation in the future to maintain financial stability. The financial system needs to be robust with respect to credit risks.

I reluctantly conclude that the market is all too often shortsighted—not as shortsighted as the public sector typically is but shortsighted nonetheless. The problem is well known in the finance literature. The probability distribution of possible outcomes has fat tails—the probability of extreme events is much higher than managers

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of financial firms and investors in those firms seem to understand. Financial firms pursue risky strategies that yield apparently high returns year after year, until the crisis hits and the strategies fail catastrophically.

A common feature of financial strategies that fail is a duration mismatch—assets on the balance sheet have longer maturities than liabilities. Financial firms can indeed earn reliable returns from maturity transformation, provided they have robust strategies to deal with the risk. What seems to have happened is that firms have relied on thick asset markets to allow them to borrow short-term by putting up their longer-term assets as collateral. Once lenders come to distrust the value of the collateral and ask for more, the strategy is in great difficulty. Selling the collateral at a price anywhere close to its value on the balance sheet may not be possible when the market comes to distrust the paper.

The possibility that asset markets would close could and should have been foreseen. The only protection a firm has in such a case is to fall back on its capital. A firm pursuing this strategy should hold a substantial secondary reserve of assets of high quality, such as Treasury bills, that could be sold when necessary. Strong secondary reserves are simply banking 101. With more capital, firms could have been more patient holders of distressed debt and could have pursued work-out strategies to maximize its value.

The greater the mismatch of asset and liability duration, and/or the weaker the credit quality of assets, the greater should the firm's capital be. Unfortunately, entering the crisis many large financial firms were very heavily leveraged. The subprime paper they held had weak credit quality and relatively long duration. Some large financial firms, especially hedge funds and investment banks, ostensibly had three or four percent capital, but that cushion was quickly exhausted when assets dropped in value.

Another part of the typical strategy was to rely on derivatives to provide hedges. Interest rate swaps, for example, could be used to create synthetic long-duration liabilities out of short-term liabilities. That strategy still requires that the firm be able to roll over its short-term liabilities, which proved difficult and expensive once the market came to distrust the solvency of the borrowing firm. Incidentally, from the beginning of the crisis we heard that the problem was illiquidity and lack of confidence. Both, in fact, flow from market

assessments of risk of insolvency. Strongly capitalized firms, such as Berkshire Hathaway and Microsoft, never had any problem borrowing in the money and capital markets. From the beginning, the issue was not liquidity *per se* but the underlying problem of the threat of insolvency.

Another problem with derivatives strategies is that derivatives contracts are not a substitute for safe assets such as Treasury bills because of counterparty risk. Once a major seller of credit default swaps (CDSs) such as AIG got into trouble, the value of a hedging strategy based on CDSs went south.

In the years ahead, every financial firm should examine risks in light of what has happened over the past 18 months. A critical part of the risk management strategy must be to stress-test models using data from the past few years. And if the markets being studied do not include collateralized debt obligations (CDOs) secured by subprime mortgages—and they probably won't—risk managers should make up hypothetical data based on what has happened to CDOs.

Another lesson for the private sector, and one I do not know much about, is the need to design compensation policies that provide the correct long-run incentives for managers. This is a difficult topic because the pressure to hire and retain high-performing employees is real, and yet intense competition for such employees makes it difficult to structure compensation that reflects risks of bad outcomes that may not occur for a decade or more.

## 2. Lessons for the Public Sector

There is much talk of regulatory failure as a root cause of the current financial crisis and of regulatory reform in the future. It is not difficult to point to particular regulatory lapses, and I do not deny that some occurred. Nevertheless, it is all too easy to believe that regulation can achieve more than it really can. It is impossible to judge prospects for regulation without knowing the details of what is being proposed. Will every financial firm have to have a federal charter and be federally regulated? How do we define a “financial firm?” Will foreign financial firms be banned from doing business in the United States unless they operate through subsidiaries chartered by the federal government? What I hear from the proregulation camp often sounds less like a real program of reform and more like the assumption

that there is a magic wand that can wave the problem away.

Regulation is and should be subject to normal political processes. It just does not make sense to believe that in a democracy Congress will design regulations in such a way that regulators will be completely insulated from the political process.

Recent experience is instructive. Commercial banks are relatively tightly regulated and were not much involved with subprime mortgage origination. It makes no sense to freeze the financial system to ensure that financial innovation will never again go awry. The subprime mortgage, before pursued to excess, was a useful innovation, and it occurred outside the federally regulated commercial banks. The innovation was cheered by many members of Congress, who saw it as a way to increase home ownership by increasing the availability of affordable mortgages.

It would be naïve to assume that we will never again observe an unwise financial innovation that will be cheered by Congress, or by the market for that matter. We live in a dynamic society that thrives on innovation of all kinds. Some innovations are successful and some are not. Regulators are not clairvoyant and will not be infallible in distinguishing sound from dangerous innovations. Moreover, existing firms always try to use the regulatory process to restrict competition from innovative competitors. The political process along with competition from financial firms abroad mean that regulation cannot be the major source of future financial stability. Regulators are not immune from doing fundamentally ineffective things, such as banning short selling.

A general lesson for the public sector is that it should pursue its goals through measures that are on budget, either through federal outlays or through the tax system. Federal policies to encourage Fannie Mae and Freddie Mac to accumulate subprime mortgages contributed to the conditions that led to financial crisis. This was an off-budget effort, which has now become a painfully large on-budget bailout of Fannie and Freddie and other firms that accumulated subprime mortgage paper. But I have no doubt that the private sector would have created the crisis without participation of the federal government—my point is simply that the

federal government contributed to the problem through its off-budget efforts.

Financial firms were vulnerable to crisis because of excessive leverage. Where does excessive leverage come from? Part of the answer is the one I discussed at the outset—financial firms pursue risky strategies based on leverage because it is profitable in the short run. Public policy contributes to the incentive to use leverage. In the corporate tax law, interest but not dividends are deductible in calculating income subject to tax. It would be simple—conceptually but probably not politically—to change the corporate tax law to reduce or eliminate deductibility of interest. Congress could provide that only 90 percent of interest will be deductible next year, 80 percent the following year and so on down to zero deductibility of interest. A reduction of the statutory corporate tax rate year by year could make the reform revenue-neutral. Corporations relying on a lot of debt would see their tax burden rise, and corporations relying on little debt would see their tax burden fall. That is exactly what is needed—a tax on risky and socially costly behavior. Eliminating the deductibility of mortgage interest in the individual tax law would also be a constructive reform.

A number of observers have urged that we abandon fair-value (mark-to-market) accounting. I am sure that the implementation of fair-value accounting can be improved but am a true believer in this accounting approach. Critics seem to ignore the incentive effects of fair-value accounting. A company, knowing that this accounting system is required, should understand that a market event that depresses the value of certain assets will show up quickly on the balance sheet. That is an incentive to hold adequate capital. Capital provides not only a buffer against adverse market developments but also the resources to pursue opportunities to buy undervalued assets. Fair-value accounting is a protection for investors and creates the right incentive for managements.

In the current circumstances, it would be especially dangerous to abandon fair-value accounting. Investors would assume that the government is trying to hide the underlying weakness of many firms' balance sheets. We need to build confidence in the integrity of the system and not erode it.