

Chapter XIII

Containing Financial Contagion at the Source

Credit is the air that financial markets breathe and when the air is poisoned there's no place to hide.

— Charles R. Morris,
The Trillion Dollar Meltdown, 2008

THE PROBLEM, A FLAWED ASSUMPTION WITH FLAWED METHODS

The world financial market is currently in turmoil because of the recent housing and credit crisis. From January to November 2007, more than 1 million homes in the United States entered foreclosure. Not only are homeowners losing their homes, but paying renters are being evicted as lenders reclaim properties. Depending on the state, 48–69% of foreclosed loans come from the subprime market. Subprime refers not to interest rates but to borrower quality, determined by low credit scores, little credit history, or unstable income with limited assets. Because of the increased risk associated with loaning to them, those borrowers cannot get favorable rates and often take out loans with short-term introductory rates. These loans generally get packaged by Wall Street into residential-backed securities and structured into slices or tranches that can be priced and rated from AAA to BBB– on the basis of the credit risk inherent in each tranche. When these mortgages adjust to market rates, the borrower no longer qualifies for the existing loan and can no longer pay it back. Because techniques such as gifted down payments and no requirements to prove income were the only way to move these borrowers into mortgages, many were lured into a false sense of prosperity for which they were neither prepared nor equipped and for which they are now suffering through foreclosure.

The subprime mortgage market bubble eventually led to a credit crunch, causing a chain reaction in which the twin engines of America's credit system—the capital markets and banks—both misfired. A recent U.S. banks report suggests that bank failures could rise beyond historical norms (Pimlott et al., 2008). The resulting effect has spread from Wall Street to the broader economy. If the International Monetary Fund is correct, the resulting credit crash could be the most expensive in history, measured in dollar terms at \$945 billion (Guha, 2008; Strauss, 2008). The impact is so devastating that pressing

questions arise: How might we avoid such credit crashes or contain the spread of credit crises at their source?

Although credit crashes do not emerge randomly, the core of the problem lies with misjudgments by the investment community (Greenspan, 2008). Many researchers believe that three trends have conspired to create the recent credit crash: First, residential mortgages, leveraged buyouts, and other loans have gravitated away from banks toward global capital markets. Subprime mortgage-based securities appear underpriced at their original issuance, which allows banks to evade the requirement to reserve capital and thereby push them and their off-balance sheet vehicles to achieve much higher leverage. Second, the securitization of mortgages has encouraged careless lending, such that households borrow more than they are able to pay back. Third, investment portfolio managers' increased reliance on credit ratings from rating agencies has resulted in a flawed image of reality that depicts prosperous mortgage markets and apparently risk-free investments (Crook, 2008). Credit-rating agencies have admitted that the golden ratings they awarded to many mortgage-linked "structured" products were erroneous, particularly those of collateralized debt obligations (*The Economist*, 2008).

Undoubtedly, the financial market turmoil has laid bare the weaknesses and flaws of the current approach to credit evaluation. After being badly harmed by the sharp rise in U.S. mortgage delinquencies, credit rating agencies, particularly the three main actors—Moody's, Standard & Poor's, and Fitch—are reviewing their methods. Officially, a higher rating should indicate stronger business performance, with less chance of bankruptcy. Any development of models or methods for rating in turn is based on certain economic theories. At the heart of the present approach to credit evaluation are estimates of risk and value that consider risk a multidimensional concept. Although commonly expressed numerically as the product of probability and expected consequences associated with an adverse event, risk generally is defined as a triplet comprised of a scenario, the probability of that scenario, and its associated consequences. In the context of risk analysis for loan evaluation, for example, a lender usually investigates the borrower's ability to meet the obligation should a loan application be granted. Thus, the scenario may involve a potential delay or inability to provide debt payment. The assessment procedure attempts to evaluate the possibilities of the occurrence of default, and its expected consequence should be a default or delinquency.

Although real-world risk evaluation models are very complex, a simple format can express their core theme:

Risk \leq Market Threat \times Capability \times Consequence,

where market threat describes the set of adverse circumstances that, if they occurred in a market, would affect a borrower's operation and payment ability; capability measures a borrower's survival ability or resistibility if influenced by a market threat; and consequence indicates possible outcomes of an adverse event. A borrower or lender in this context refers to people or an individual firm.

When a lender provides a loan to a borrower, it does not want to lose the money, yet in ever-changing competitive markets, a market threat can occur at any time. Therefore, the lender must assess the possibility of a market threat and the borrower's survival ability in response to that threat. The borrower's survival ability is a multidimensional concept to which many factors may contribute, analogous to the concept of "health." For example, to evaluate whether a person is healthy, physicians examine a set of concrete medical indexes, such as blood pressure, heartbeat, and basic organ functions. Similarly, to determine a borrower's financial health, or survival ability in a competitive market, the lender needs a

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