Securitization and Financial Crisis: Risk Characteristics and Assessment of ABS CDO*

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Abstract

The turmoil in the current financial markets, caused by the problems in the US subprime mortgage market, has led to a global recession. There are few signs of recovery thus far. Major financial institutions have recorded significant losses throughout the crisis. What is characteristic of these losses is that collateralized debt obligations backed by pools of asset-backed securities (ABS CDOs), which in turn are composed of pools of mortgages, including subprime loans, have been estimated to lose approximately 60% or 70% of their values. This is followed by losses in ABS.

In this paper, we discuss the risk characteristics of structured products, particularly ABS CDOs, by applying a standard credit model and simulation technique. On the basis of the simulation results, we will present the underlying mechanism governing structured financial products, which are fragile in nature. Further, we discuss some challenging issues in financial risk management.

Although securitization structures have the merit of diversification, they remain highly sensitive to the systematic risks of the underlying assets. As a result, the cash flows of CDOs could suffer severely when a large systematic shock occurs. This phenomenon is closely associated with the following characteristics of securitized financial products. First, owing to securitization, mezzanine and equity tranches have been more exposed to the so-called tail risk than the underlying pools of mortgages. This effect is amplified by the iterative process of securitization. Second, the creation of small tranches in the process of iterative securitization results in a greater sensitivity to systematic risk for all classes of securitized products. This typically causes a sharp increase in the loss rate, which is described as the cliff effect. Third, tail risk and cliff effect are closely associated with more subordinated tranches as well as resecuritized products. Finally, when the default probability of individual loans and default correlations increase, the resulting effects for resecuritized products become more pronounced. Since the high default correlation among individual mortgages implies that undesirable events tend to occur simultaneously, this increases the risk of senior tranches.

It is possible that the characteristics of ABS CDOs described above have become increasingly apparent against the recent developments, namely, the downturn in the housing market and the changes in market conditions, and that this has led to the large-scale plunge in the values of structured products.

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