

Press points for Chapter 2:
Do Market Risk Management Techniques Amplify Systemic Risks?

Global Financial Stability Report (GFSR), September 2007

Key points

- **Risk management techniques of financial institutions have improved over the last decade, with the use of more rigorous risk modeling and a greater sensitivity and awareness of risks.**
- **Based on simulations, using a widely applied market risk management method, Value-at-Risk (VaR), the chapter finds that self-reinforcing mechanisms have the scope to amplify volatility and alter asset price dynamics. Other methods can also serve to destabilize prices during a period of heightened volatility.**
- **Since greater diversity of types of risk management systems could help in a period of stress, regulated entities and their supervisors should seek to avoid overly standardized and rigid methods.**
- **Perhaps more important will be to encourage a broad set of investor types with different positions and different objectives, so that some of them can provide offsetting positions that can help stabilize markets.**

Until recently, the decline in volatility in global financial markets was reflected in lower measures of market risk that encouraged firms to expand their risk-taking. **The question then arises: as volatility picks up, will firms be tempted to reduce their risk-taking, and, if they are all using similar models, will they attempt to reduce risky positions simultaneously, exacerbating volatility?**

Using a Value-at-Risk model, the chapter shows that an amplification of volatility could be a consequence of increasing uniformity of models. The Value-at-Risk measure captures an estimate of the expected loss that an institution is unlikely to experience within a given period of time with a particular degree of confidence. That is, with, for instance, 95 percent confidence, it provides an estimate of the amount a firm could expect to lose on 5 trading days out of every 100. The measure will rise if volatility in the underlying assets of the portfolio increases and, even more so, if they rise at the same time (that is, their correlations rise as well). If trading limits are attached to this method, or other methods of managing risk, such as margin calls or stop-loss position limits, then institutions may be encouraged to act simultaneously to reduce risky positions, and hence have larger effects than if they were acting alone.

Simulation results suggest that an adverse shock to the volatility and correlations across a set of commonly held assets can lead to destabilizing behavior. The chapter explicitly attempts to capture the interaction effects across institutions—that is, institutions do not factor in others’ behavior when they react to their risk management signals even though their simultaneous reactions could amplify volatility. In practice only a few institutions explicitly consider their trading effects on other institutions during a period of stress, lending support to the chapter’s hypothetical results.

Several policy implications arise from the chapter, reinforcing those that are being discussed by policy makers around the world to address recent turbulence.

- **A diversity of approaches, and particularly greater use of “stress testing”** that can be tailored to the institution’s own circumstances, would help reduce the chances of a common reaction.
- **Risk managers could evaluate how they and their competitors would react** during a period of stress.
- **At the same time, regulators and supervisors should also plan proactively** for the potentially adverse effects of multiple institutions reacting in the same direction, through, perhaps, various “war game”-type exercises.
- **Banks could improve their risk management reporting.** Institutions could disclose remote, but plausible risks (so-called “tail” risks), the types of stress test undertaken, and information about the robustness of their VaR models to help investors and counterparties better assess the institution’s soundness.
- **Encouraging a diversity of participants, particularly those who could provide liquidity when needed,** is an important element to help to mitigate the effects of “fire sales” and “crowded trades.” Hedge funds and other lightly-regulated asset managers can help to play this role. Assuring their nimble and flexible approaches to investment would help to lessen destabilizing behavior arising from the growing uniformity of risk management practices.