

# PREFACE

*Guarding against systemic risk in the financial system is a key undertaking for central banks. Defining this type of risk is difficult, but managing it with precision is harder still. Complicating this task is the fact that institutional consolidation, a broadening range of financial products, and greater connectivity among firms have in recent decades materially changed the nature of systemic risk in the financial system.*

*To stimulate fresh thinking on systemic risk, the Federal Reserve Bank of New York and the National Academy of Sciences' Board on Mathematical Sciences and Their Applications cosponsored the conference "New Directions for Understanding Systemic Risk" in May 2006. The main goal of the sessions was to explore parallels between systemic risk in the financial sector and in selected domains of engineering, ecology, and other fields of science. The event attracted more than 100 experts on systemic risk from 22 countries, representing banks, regulators, investment firms, U.S. national laboratories, government agencies, and universities. In addition to bringing together many participants with backgrounds in banking, finance, and economics, the conference broadened the discussions by including the perspectives of mathematicians, statisticians, operations researchers, ecologists, engineers, and physicists.*

*Although the topic of systemic risk may call to mind the possibility of deliberate attacks, both cyber and terrorist, on the financial system, after careful consideration the conference organizers decided against emphasizing this source of systemic risk. They reasoned that such a focus would downplay the many ways in which systemic risks can arise during the financial system's normal operations. Analysis of the risks of deliberate attacks might build on the concepts explored in the conference, but it would require additional considerations and tools.*

*This volume was prepared to share some of the insight and excitement generated by the conference and to encourage further cross-disciplinary conversations. We hope you find it useful and informative.*

*—The Report Editors*