

Value at Risk and Bank Capital Management

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Preface

About the Book

Risk management is at the heart of bank management and is one of the most fascinating fields for academic research. Developments in risk measurement techniques, risk management practices, and regulation have reinforced each other to increase the attention of a wider and wider public to a number of topics that in the mid-1990s would have reached the attention of only a few specialists. Understanding bank risk management is now recognized as a key requisite for most (if not all) of the managers working at a financial institution. The purpose of this book is to present risk measurement methodologies and to discuss their implications and consequences on the bank's decision-making process.

In fact, it would be limited to analyze and study risk management problems by focusing on risk measurement methodology issues only. While measurement methodologies are clearly very important and research in this field is crucial, a well-designed risk management process is also based on a clear and effective definition of risk control, performance evaluation, and capital allocation processes. The science of risk measurement and the art of management are both required, and this makes risk management an attractive topic not only for finance specialists but for human resource and organization specialists and researchers as well.

In my personal experience as a teacher in executive risk management seminars designed for different target audiences, as a researcher, and sometimes as a consultant, I have noted how important is to consider carefully not only the technical soundness of risk measurement methodologies, but also the consequences their application may have on human behavior. Measuring a trader's risk capital and including this number in his or her performance evaluation and compensation scheme sounds fine, but unintended consequences are always possible. Bankers Trust was among the pioneers in the development of risk management techniques and processes, but many think that lawsuits with some large customers in the mid-1990s and the subsequent reputational problems were mainly the result of a compensation scheme making the traders focus only on short-term profit, even if they were correctly measured in risk-adjusted terms.

The intent to link risk measurement methodologies with their impact on internal processes also explains the structure of this book. The first two chapters introduce the concept of value at risk and discuss the different types of capital that bank capital management has to consider (also discussing the main impacts of the Basel II Accord and the new IAS/IFRS accounting principles). The book then goes on to cover risk measurement. Besides dealing with “classic” market, credit, and operational risks (Chapters 3 to 5), it also discusses two crucial topics that have so far received less attention than they should: (1) how to measure business risk (Chapter 5) and (2) how to estimate overall economic capital through the aggregation of different risks (Chapter 6). The remainder of the book analyzes how a bank can structure risk control and risk-adjusted performance measurement processes, with the final chapter discussing the links between the capital allocation process and the budgeting and planning process.

Addressing all these issues while trying to keep the book as unifying as possible is not an easy task (even though suggestions for selected further reading are provided at the end of each chapter). Any reader can judge whether or not I have been able to find the right balance. In any case, I hope this book may give even nonspecialists a clear picture of key methodologies, their critical assumptions, and their implications for bank management while providing experienced readers with a useful critical discussion of a number of crucial topics that are still in their early stages of development, such as business risk, risk aggregation, and the definition of target returns for individual business units within the capital allocation process.

Acknowledgments

The people I am indebted to for this book are almost uncountable. On one hand there are all the people in academia whom I have had the chance to listen to or to discuss or work with since the early 1990s and who contributed to the development of my interest in all the different aspects of risk management. On the other hand, this book is also the result of a number of meetings, interviews, and discussions with many talented risk managers, regulators, and consultants while facing real-world problems.

Though the people I should thank are many, the first one, and not only in order of appearance, is Andrea Sironi, who first introduced me to value at risk in 1992 and who has since been fundamental in developing my research interest in this field. All the projects and executive seminars in which we have worked together have been an opportunity for endless, passionate discussions on risk management problems, some of which are reflected in this book. He has always been not only a friend, but also the most wonderful colleague one could hope to work with.

Also of great importance to me have been the research environment at Bocconi University and the many great colleagues there and its proximity to the real world of financial institutions. I would like to mention in particular Roberto Ruozi, who invited me to join Bocconi; Paolo Mottura, whose advice and example have always been precious; Luca Erzegovesi, who first introduced me to quantitative finance and who, together with Roberto Ruozi, Pier Luigi Fabrizi, and Giancarlo Forestieri, patiently supervised most of my first publications. For this book, I am especially grateful to Andrea Resti for a number of interesting discussions and for the comments he gave me on some specific parts of the book. Very useful comments on individual chapters also came from Leo Corvino and Mascia Bedendo, from Bocconi, and Mauro Senati and Maria Egle Romano, from Banca Intesa and UniCredit, respectively. I would like to thank them all, together with Giacomo

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I am deeply indebted to many different people at New York University's Salomon Center for the period I spent there as a visiting scholar in 1994–95, when I started researching (and interviewing people) in the risk management field. The frequent opportunity to listen to and have discussions with people such as Ed Altman, Tony Saunders, Roy Smith, and Ingo Walter (just to name the people most relevant for this book) has been invaluable, as for any young researcher wishing to understand risk management and decision-making processes in large financial institutions. I am particularly grateful to Ed Altman for the kind advice he has given me a number of times since then. I must also thank the many different top managers I interviewed during that period from two of the largest New York-based international banks and the numerous risk managers from European banks I interviewed or held discussions with more recently. While almost all asked for anonymity (about which I will keep my promise), they know how important they have been for this book. An exception can clearly be made for two groups of people. The first group includes Elio Berti from UniCredit, Luc Henrard and Ruben Olieslargers from Fortis Group, and Patrick de Fontnouvelle and Victoria Garrity from the Federal Reserve Bank of Boston, who were so incredibly kind to contribute to this book by directly writing some sections, making their experience and competence available directly to the reader. It is hard for me to express completely how much I appreciate their great kindness and support. The second group includes a number of Italian bank managers, risk managers, and supervisors whom I have had the chance to meet repeatedly at conferences of the Association of Italian Financial Risk Managers (AIFIRM) or of the Fondo Interbancario di Tutela dei Depositi (FITD) or even work with in one of the two research risk management projects sponsored by the FITD that I coordinated. It is impossible to list of all them (and I beg their pardon for that), but I must mention at least Fabio Arnaboldi and his team, Pierfrancesco Cocco, Domenico Gammaldi, Renato Maino, Fernando Metelli, Carlo Palego, Sandro Panizza, and Sergio Sorrentino.

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