

Philippe Jorion Value at Risk: The new benchmark for controlling market risk, Chicago: Irwin Professional Publishing, 332 pp.

Review by Professor Kevin Dowd, University of Sheffield.

Value at Risk was the first full-length book on value at risk (VaR). It was published in late 1996, and helped to fill an important gap in a new and rapidly evolving subject. It aimed to provide a "comprehensive analysis of VaR methods" (p. xv), to serve as a "text for advanced graduate seminars on risk management" (loc. cit.) and, to quote the dust-jacket, to provide "financial professionals with all the information they need to understand and implement" VaR.

It consists of four parts and sixteen chapters. Part One is an introduction consisting of three chapters which focus particularly on the need for risk management and VaR. Part Two deals with 'building blocks' and consists of chapters on the source and measurement of financial risks. (ch. 4), the basics of VaR measurement (ch. 5) and of fixed-income analysis (ch. 6), the "characteristics of derivatives relevant for computing value at risk" (ch. 7), portfolio risk (ch. 8), and the forecasting of volatilities and correlations (ch. 9). Part Three then looks at VaR systems. Chapter 10 looks at various approaches to measuring VaR, chapter 11 looks at implementing delta-normal VaR, chapter 12 looks at Monte Carlo simulation, and chapter 13 deals with credit risk. Finally, Part Four has three chapters on risk management systems, with the last chapter summarising the author's views on the many benefits to be obtained from adopting VaR systems.

This book offers some good insights and some useful, albeit elementary, treatments of particular topics (e.g. on the measurement of financial risks in chapter 4, and on the forecasting of volatilities and correlations in chapter 9). However, the book also has a number of serious flaws. The book is poorly organised, and there is a tendency to over-simplify topics and gloss over difficult problems. Some topics are treated in an unclear manner (e.g. estimation error in VaR, and incremental VaR). Other important topics are raised, but not developed in any depth (e.g. the use of VaR for performance evaluation), whilst others get barely a mention (e.g. capital allocation, the use of VaR for ex ante risk adjustment, and the question of how to handle liquidity risk). Still others are left out altogether (e.g. the topic of quasi-Monte Carlo techniques, which should have been discussed alongside standard Monte Carlo techniques).

Jorion is very enthusiastic about VaR, but he exaggerates the case for VaR by over-rating the superiority of VaR risk measures over more traditional ones. A clear instance occurs in his oft-repeated claims that the disclosure of VaR information might have avoided Orange County's default, with the clear impression being conveyed - though not explicitly stated - that the disclosure of more traditional risk information would not have had the same effect. Yet the fact is that even a basic traditional approach - such as a sensitivity analysis - would also have revealed the magnitude of Orange County's exposure to interest rate risk. The problem with Orange County was not so much the absence of a VaR system, but the absence of risk disclosure of any substantial kind: a traditional risk measure would have done as well.

Jorion also exaggerates the benefits of VaR in his other favourite example, the Barings debacle. Jorion repeatedly points to the benefits that a sound VaR system

would have given Barings. However, the Barings disaster was essentially a failure of operational control and, in particular, of the failure to control fraud, and a VaR estimation system would only have alerted Barings' management to the risks they were taking if sound data were being fed into it in the first place. So the problem was not so much the absence of a good VaR measurement system, as the failure of the management to deal with fraud. In the final analysis most failures occur because of operational problems, not because of inadequate systems to measure market risk. The solution is therefore not a VaR estimation system as such, but sound management control and what is now usually described as enterprise-wide risk management. Jorion would presumably reply that VaR systems as he envisages them would include mechanisms to ensure data integrity regardless of whether we have VaR systems or not. Data integrity systems are one thing, VaR systems are another. Data integrity systems are always essential; VaR systems are not.

Jorion's treatment of VaR is also unbalanced. Good risk management requires the appropriate use of a number of different tools, and each tool in the kit has its own particular strengths and limitations. VaR is but one of these tools, and anyone who uses VaR must be aware of its limitations as well as its strengths. Unfortunately, Jorion has nothing to say on the weaknesses of VaR. The unwary reader will therefore be left with little awareness of the many difficulties and potential drawbacks from VaR-based risk management systems (e.g. the problems of VaR-system risk, of traders gaming VaR systems, and so on). Indeed, Jorion goes further and gives the impression that he regards VaR as some kind of panacea, as if it were a general solution to (all?) risk management problems. However, one of the first lessons in risk management is that there is no panacea. VaR is merely another useful tool, or collection of tools, and its usefulness depends, not so much on the tool itself, as on the skill of the user.

In short, the book gives a good introduction to some risk management and VaR topics. It has its insights and parts of it could easily be used on lower level or less-demanding courses on risk management. However, its coverage of topics is very uneven, it cannot be regarded as a comprehensive guide to VaR, and its lack of depth makes it unsuitable for advanced graduate courses on risk management. It also exaggerates the usefulness of VaR and gives an uncritical and one-sided perspective that many risk management professionals would be very uncomfortable with.

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