Book Review

An introduction to credit derivatives (2nd edition)

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The increasing importance of credit derivatives in modern finance over at least the last two decades is undisputed, although their role in – even, more contentiously, their responsibility for – the financial crisis beginning in 2007 remains open to debate and continuing research. Despite the shock apparently experienced by many practitioners, the bafflement of most outsiders and antipathy among politicians when the severity of the crisis became clear, the place of such derivatives seems assured, albeit subject to greater regulation and external scrutiny. While commenting on the crisis of 2007/2008 and its aftermath, these events are not the central focus of Choudhry's book, which is rather to 'introduce credit derivatives for the practitioner or graduate student in an accessible fashion'. Throughout, attention is devoted to the needs of beginners with little, if any, prior knowledge of such instruments, although an acquaintance with the world of finance is taken for granted – together with an appreciation of some formal methods, as will become clear.

As in many topics of finance, three broad themes for study can be identified: description of the contracts themselves, their applications in support of more-or-less complicated strategies and modelling of their market prices or valuation. The third – modelling – founded on *a priori*

theory, and thence statistical analysis, involves both estimation (of most interest to practitioners in their quest to compute 'fair' values) and hypothesis testing (of most interest to academics as they seek to uncover models consistent with empirical evidence). Choudhry's book covers all three, although its main contribution is on the first, to explain how the most widely traded credit derivatives actually work.

Chapter 1 guides the reader through the nature of 'credit risk' and related concepts as a foundation for a careful examination of Credit Default Swaps (CDSs) and Credit-Linked Notes (CLNs) are discussed in Chapters 2 and 3. However, the respective chapters contain more than just a bare description of each instrument. Chapter 2 begins with a brief overview of characteristics shared with most credit derivatives and those which serve to differentiate them, introducing the distinction between unfunded (CDSs) and funded (CLNs) instruments neatly making clear the significance of the difference for financial decision making. Each of the chapters offers a brief commentary showing the implications of the instrument under consideration, for example, the risks associated with CDS contracts and the deployment of CLNs in structured products. Chapter 4 pursues the theme further, introducing a variety of

applications (for example, Total Return Swaps), the emphasis throughout being on use of the instruments in practice. For a more detailed treatment of the subject, the reader is referred to another of the author's books.

Chapters 5, 6 and 7 turn to the last of the three themes noted above, modelling. Chapter 5 treats the reader to a whistle-stop tour of derivatives pricing (or valuation) models, with particular application to credit instruments, the outlined models flowing, in one way or another, from the seminal contributions of Black, Merton and Scholes in the early 1970s to options' price theory. It is from Chapter 5 onwards that the reader's formal mathematical background will determine what is to be gained from Choudhry's exposition. Readers without previous acquaintance with the methods of continuous-time stochastic processes (one suspects the majority) will obtain a glimpse of modern approaches to modelling price determination but – one hopes – will not be misled into thinking that they have thereby equipped themselves to develop the sorts of applications that the author goes on to describe. However, it would go far beyond the author's remit to provide the detailed treatment that most readers will need to acquire an understanding of such tools within the compass of this book. Choudhry's emphasis throughout is on practical applications and it is here that the reader (whether previously versed in the mathematical principles or not) will find the most benefit.

In Chapter 6, similarly, it is with respect to practical applications – here for the pricing of CDSs – that readers of all backgrounds have most to learn. Those who have a previous knowledge of the formulae presented will be comfortable with them; those without are best advised to take the formulae on faith and focus on grasping how they are applied (once again, where the exposition is at its best). Finally, in Chapter 7, which draws on the author's earlier work, the treatment – here of 'asset swap'-CDS spreads – focuses on the motivation for, and nature of, applications rather than the theoretical principles underlying the practice explained in the text.

Throughout the book, especially in the earlier chapters, readers are aided with handy schematic diagrams (typically illustrating financial flows between parties to a contract) and reassured of the practical relevance of the subject matter with reproductions of carefully selected Bloomberg trading screens. In summary, this admirably short book fulfils its purpose, concisely introducing credit derivatives to beginners, showing not only what they – CDSs and CLNs – are but also outlining how they may be applied and the methods by which they are commonly valued in practice.

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