Balance sheet structured products have transformed the way in which banks manage the credit risk in their portfolios. In a typical transaction, a bank will sell a pool of loans it has originated to a bankruptcy-remote special purpose vehicle (SPV). The SPV will pay for the assets by issuing a set of tranches of liabilities with different seniorities. Investors buying part of a tranche assume some of the credit risk of the underlying pool of collateral to the extent that losses on the loans may exceed the par value of more junior tranches.

Initially, much of the growth in structured credit markets was driven by banks’ attempts to reduce the regulatory capital they must hold under the 1988 Basel Accord rules. Suppose that a bank securitises a pool of loans but retains most of the SPV’s more junior liabilities and therefore retains almost all of the credit risk. Even if regulators required banks to deduct the “toxic waste” junior tranches from their capital, the total increase in capital that this implies will often be substantially less than the capital that the bank would have to hold if the loan pool remains on balance sheet, ie, 8% of the total pool par.

As the market has matured and the motive of economising regulatory capital has become less important, banks have increasingly employed structured products for genuine transfers of their risk to other financial institutions. Put another way, structured products increasingly permit banks to economise their economic capital, not just their regulatory capital.
These developments must surely be regarded as positive. Banks that can manage their risks by adjusting their exposure to different types of credit risk are much better equipped to weather downturns in markets. In the past, debt origination generally amounted to a buy and hold strategy by the originating bank. Now, instead of being locked into a particular credit market sector by its past decisions, a bank may adjust its exposures dynamically.

There may be some concerns that the traditional monitoring role that banks perform in debt markets will be diminished if they do not face the full consequences of their decisions. But where this consideration is significant, one would expect to see SPV designs that leave the bank with a relatively large fraction of the credit risk.

Just as the broad category of balance sheet structured products has revolutionised banking, so-called arbitrage structured products and, in particular, arbitrage collateralised debt obligations (CDOs) have transformed investment in previously illiquid bond markets. In a typical transaction, a collateral manager issues liabilities through an SPV and purchases a pool of illiquid bonds that he then manages, following a more or less active investment strategy. The effect of this has been to create valuable liquidity in corporate bond markets, allowing investors to take positions with differing levels of risk in diversified pools of hitherto illiquid credit sensitive instruments.

The complex nature of structured products means that ratings agencies play a key role as gatekeepers in this market. Issuers setting up an SPV generally consult ratings agencies early on about the ratings that the tranches of the SPV’s liabilities will receive if the structure is designed in different ways. The agencies may specify particular levels of over-collateralisation or tranche thickness for senior tranches to attract given high credit ratings. After a structure has been established, ratings agencies play a significant role in monitoring the secondary market performance of structured products, assisting investors’ decision-making through changes they make in the ratings they accord to structured exposures.

New markets in financial products often require new techniques of analysis. For example, the growth in interest rate derivatives in the 1980s was accompanied by a big expansion in research activity in firms and universities on term structure modelling. A similar development is under way in the modelling of structured products. The
new problem faced by those wishing to model these instruments is that of modelling portfolios of correlated credit-sensitive exposures.

This volume is aimed at readers who wish to understand the latest developments in the pricing, rating and risk management of structured products. Domenico Picone describes the nature of typical structured products in detail, lucidly explaining the different categories of transactions and features of the market. Alexander Batchvarov sets out the many considerations (some hard to model formally) that influence the valuation of structured products. The chapters by David Lando and by Rüdiger Kiesel and Rafael Schmidt exposit new techniques for modelling statistically the losses on pools of correlated credit exposures, focusing on how correlation between defaults may be described. The contributions by Jeroen de Smet and Viktor Tchistiakov and by Olivier Renault, Tom Dewyspelaere and João Garcia examine how different models applied to structured product exposures compare in their implications for expected losses and capital.

The chapters by Kai Gilkes and Norbert Jobst, and by Richard Hrvatin consider methodological aspects of structured exposure ratings. Jian Hu, and John Ammer and Nathanael Clinton contribute significantly to the (at present) limited state of knowledge of the empirical behaviour of structured product ratings. William Perraudin and Astrid Van Landschoot examine the risks in structured product investments by analysing the volatilities and other statistics of secondary market spreads on US asset-backed securities (ABS).

Michael Pykhtin surveys an important new class of asymptotic models that are useful for analysing capital for structured products. The chapters by Michael Gordy and by Vladislav Peretyatkin and William Perraudin examine the underpinnings of the new Basel II framework for structured exposures. Alexander Batchvarov, Domenico Picone, Peter-Paul Hoogbruin, Jeroen de Smet, and Viktor Tchistiakov give a critical industry perspective on some of the Basel II proposals for structured products.

Taken together, these chapters constitute a formidable contribution to our understanding of the risk management, pricing, rating and regulation of structured products. Readers new to the field of structured products, as well as those who already have expertise in the field, should find much to interest them.