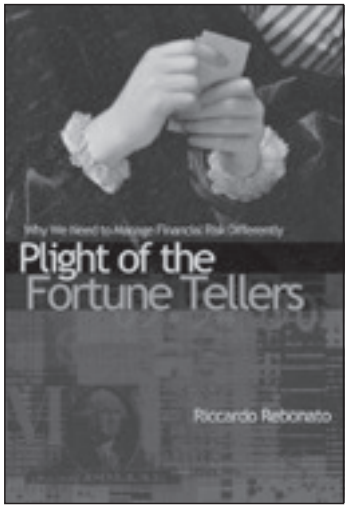
Book Reviews



Riccardo Rebonato, **Plight of the Fortune Tellers: Why We Need to Manage Financial Risk Differently**, Princeton University Press, 304 pages

Bank depositors need to be able to access their funds at short notice, but those who borrow from banks cannot sensibly promise to repay on demand. Bridging the gap is the risky business of "maturity transformation" – borrowing short and lending long. While the explosive growth of financial complexity is a reasonable cause for concern, among its benefits has been improved liquidity arising from the increased ease of maturity transformation.

If this process becomes clogged, it can create serious problems. While the financial system adapts readily to small shocks, the benefits from improved liquidity come at the expense of systemic risks from large shocks. Bad trouble in finance is contagious and often affects the real economy.

Systemic risks

Misunderstanding risk can thus lead to problems for the economy as a whole as well as for individual institutions. Excessive risk taking by banks will lead to failures and it is the role of bank supervisors to try to prevent them. When, despite their efforts, banks do collapse, central banks, which may also be the supervisory authorities, must seek to prevent the problems becoming systemic. Rebonato quotes Alan Greenspan as saying that "The management of systemic risk is properly the job of central banks."

Central banks and tax payers would like these shocks to be less frequent than they have been. It is therefore important that we should have a good understanding of financial risk and that the increasingly complex statistical techniques which have become the standard approach to their assessment should be soundly based. Riccardo Rebonato argues convincingly that they are not. After commenting that "overconfident extrapolation from early, impressive successes of a new method has become the current feature in modern thought" the author claims that this fault is common in finance today.

Question models

Institutions and regulators wish to know the probability and severity of large bad shocks and much of the book is devoted to showing that the statistical techniques used for this purpose produce estimates which are all too often meaningless. Predictions and estimates of risk require models. We can predict the chances of coin tossing if we assume that the distribution of events is

"normal". Reliable estimates can also be available from other patterns, but the pattern has to be assumed before the prediction can be made.

Robust under testing

Models are logically derived from one or more hypotheses and both model and hypotheses are only valid if testable and are robust under testing. They are thus always capable of being found wanting. All scientific theories are therefore tentative. Models may be suggested by data, but they are heuristic. They are leaps in the dark which must then be tested. Statistical work should and generally does follow this pattern. It assumes a model, and then works out the risks attached to events should they follow the model.

Unfortunately in finance this method is often not followed. The author terms the mistaken approach "frequentist", which amounts to assuming a pattern and drawing conclusions which would only be justified if the model was robust under testing. In finance the data rarely fit the model, and purists might therefore argue that they should at least be refined, if not discarded, before use. But this would leave the statisticians with no answers to the questions put to them, while they search for a new model. Since adequate models do not exist "the very high percentiles of loss distributions cannot be estimated in a reliable and robust way… These statements do contain predictions. Unfortunately they are untestable."

The author's preference is for "views of probability…which are collectively subsumed under the term 'Bayesian probability'…often seen as a measure of degree of belief, susceptible to being changed by new evidence." Bayesian probability is thus epistemologically sound, whereas "frequentism" is unsound. The book's central case is correct, important and needs saying.

What about liquidity?

The book is not, however, without blemish. One example is that, having enunciated the central issue of maturity transformation and liquidity, the author seems to seriously under-rate its importance. Rebonato remarks that "liquidity under normal market conditions has a relatively limited impact on prices." This does not seem to be justified. The Bank of England in its *Financial Stability Review* of April 2007 decomposed the interest cost of moderate credits in the United Kingdom into the risk-free rate, the risk of default, the uncertainty of default and "liquidity and other factors". Variations in the liquidity part have been large and by far the most volatile element. An over emphasis on default risk, at the expense of the risks of maturity transformation, has I think been one of the major shortcomings of financial analysis today.

The author is also in danger of misleading readers when discussing how to forecast equity returns. He refers to the equity risk premium and implies that estimating its size is a sensible way to forecast equity returns. The return on equity has been more stable than the observed risk premium. Provided allowance is made for the negative serial correlation of equity returns, it is a sensible way to estimate future returns, which trying to use the equity risk premium is not. This can be vividly illustrated by looking at the market peak in 2000. As the real return on bonds was then about 4%, any reasonable assumption about the equity risk premium would have indicated a respectable return from equities. Two years later, with the collapse of the real bond rate, the prospective return on equities via a risk premium assumption would have been far lower, even though the market had fallen dramatically. This absurdity would have been avoided if the

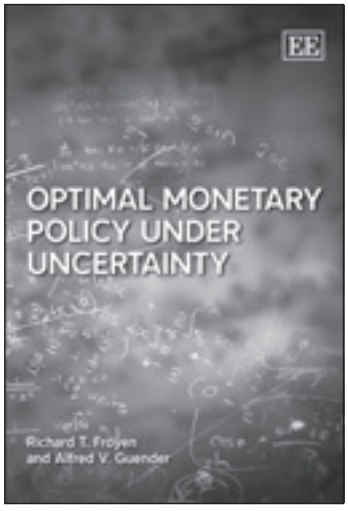
forecast of equity returns at the peak of the market had been based on the long-term return on equities adjusted downwards to allow for the exceptionally high returns of the previous two decades.

Excessive risk-taking

The book contains an important lacuna, in failing to note the different interests of managements and shareholders, which is a major example of the principal-agent problem. While referring to the different interests of equity and bond holders, the author implicitly assumes that management operates in the interest of a bank's owners. This is far from the case and the divergence of interest between management and shareholders is probably the single most important reason for consistent imprudence in banking and finance. The author assumes that improved risk assessment will reduce the mistakes made by financial institutions and thus the risks of systemic problems. But in practice this is unlikely, because it pays management to take risks which are excessive from the shareholders' perspective.

Caution makes sense for shareholders in the good times, so that disaster can be avoided in the bad. But this is not in the interests of management. If they are cautious in the good times, they will not look clever, they will not reap fat bonuses and may lose their jobs. In the bad times, they may lose their jobs but not their own capital. A lost job can usually be replaced, lost capital can't. So, the balance of risk and reward means that management is inherently driven to take more risks than shareholders should want them to do. This age-old problem has been made worse in recent years by the massive increase in the proportion of managements' remuneration which is tied to the results of the business over fairly short periods of time. Management rewards for success have become enormous while failure is seldom heavily penalised, unless it is egregious and not always, even then. As Chuck Prince remarked just before his downfall "we keep on dancing".

Andrew Smithers



Richard Froyen and Alfred Guender, **Optimal Monetary Policy under Uncertainty**, Edward Elgar, 2007, 352 pages

Froyen and Guender have provided a thorough and careful analysis of optimal monetary policy over most of the range of theoretical models that have been employed in modern macroeconomics. By providing a comprehensive and clear comparative framework, they will help the students of monetary policy understand why there have been conflicting views of what policymakers should do. The book runs through models of increasing complexity, starting with the closed