Material on this website referred to in Malcolm Kemp's book on Market Consistency

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See pages linked to Market Consistency for further information on this book.

Section	Section Title	Description	Hyperlink?
1.5 [foot] and 4.2.2.1 [foot]	Introduction	Annualisation (annualization) conventions	yes
4.3.1.6	Derivative pricing and hedging	Optimised trinomial lattices	yes
4.3.1.6(b)	Derivative pricing and hedging	Semi-analytic lattice integrator approaches	yes
4.3.1.6(c)	Derivative pricing and hedging	Numerical integration techniques	no
4.3.2.2	Derivative pricing and hedging	Deriving the Black-Scholes pricing formulae using stochastic calculus if *r*, *q* and *sigma* are constant	yes
4.3.2.6	Derivative pricing and hedging	Derivative pricing where there are multiple underlying price processes	no
4.3.4	Derivative pricing and hedging	Analytical formulae for option pricing greeks for Black-Scholes formulae	yes
4.13	Derivative pricing and hedging	Calibrating an assumed multivariate prior (Normal) distribution to the 'nearest' alternative multivariate Normal distribution that reproduces the calibration points	yes
5.3.4 [foot]	Yield curve analysis	Extrapolating present values from yield curves	no
7.1	Risk measurement	A more in depth mathematical treatment of risk management	yes
7.2	Risk measurement	Analysis of potential difference between weighted average of instrument specific durations and the equivalent 'whole portfolio' duration	no
7.3.2.5	Risk measurement	Risk measurement techniques that involve analysing fund returns through time	no
7.3.2.5 [foot]	Risk measurement	Example of snail trails	no
7.4.3	Risk measurement	Principal components analysis and other similar techniques	yes
7.4.4	Risk measurement	Expression of multivariate regression analysis in matrix algebra form	yes
7.4.8	Risk measurement	Time series based risk modelling as a special case of forecasting the characteristics of return series	yes
7.5.1	Risk measurement	The sparcity of the data available and	no

		how using weekly data does not appear to add many more significant principal components	
7.5.1 [foot]	Risk measurement	Random matrix theory	yes
7.7.1	Risk attribution	Grouping individual instrument contributions to risk	yes
7.7.1	Risk attribution	Beta adjusted risk attribution	yes
9.3.3(a)	Backtesting risk models	Standard statistical tests relevant to backtesting VaR and equivalents	yes
9.3.3(b)	Testing backtest quality	Standard statistical tests relevant to backtesting the entire distributional form	yes
9.4	Fitting observed distributional forms	Generalised beta distribution of the second kind, and other generalised distributional forms	yes
9.4	Fitting observed distributional forms	Levy stable distributions (also known as stable Paretian distributions)	yes
9.5.3	Fat tails	Derivation of Cornish-Fisher asymptotic expansion	yes
9.5.4	Fat tails	How the Cornish-Fisher asymptotic expansion lacks a desirable invariance property	no
9.5.5 [foot]	Fat tails	How polynomial curve-fits to quantile-quantile plots simplify computation of expected shortfall	yes
9.5.6	Fat tails	How mixtures of normal distributions can lead to fat-tails	yes
9.5.6	Fat tails	Typically greater sensitivity of expected shortfall versus VaR to magnitude of fat-tailed behaviour	yes
9.6.4	Fat tails (in multiple return series simultaneously)	Box counting algorithms	no
12.1	Portfolio construction	Taking account of 'what the market has to say' within investment idea generation	yes
12.2.3	Portfolio construction	Algorithms for solving (mean-variance) constrained quadratic optimisation problems	yes
12.4.2	Portfolio construction	Why statistical tests of manager skill based on past data typically depend on information ratios	yes
12.4.2	Portfolio construction	What might constitute upper quartile skill levels?	yes
12.4.4	Portfolio construction	Clustering techniques for universe selection	yes
12.7.1	Portfolio construction	Practical ways of catering better for non-Normality in return distributions in portfolio optimisation	yes
12.8.2	Robust optimisation: Re-	For what mathematical problem are	yes

	sampling	re-sampled optimised portfolios actually optimal?	
13.4.10	Market consistent liability valuations	Summary of techniques used in non-life insurance reserving	no
13.6.2	Solvency add-ons	Impact that division between base liability and solvency add-on can have within current regulatory frameworks	no