

Interest rate issues take the spotlight

Results from the citation tables, compiled from articles published in 2004, show a shift of focus from credit to interest rate risk as the implications of Basel II on financial modelling become more familiar to the market, while the practical issues of interest rate modelling and calibration receive particular attention.

The number of articles on interest rates published in *Risk* has increased to five in

the past year compared with two in 2003. Meanwhile, published credit risk articles have declined from 21 in 2003 to 11 in 2004.

Interest rate-related articles appearing in *Risk* this year include correlation and sensitivity of derivatives and volatility trading. As a result, Riccardo Rebonato of Royal Bank of Scotland is the most cited author this year, with a total of 12 citations. His work covers the breadth of issues on

modelling exotic interest rate products.

Francis Longstaff and Eduardo Schwartz are new names in the top 10 authors (see table A), for their work on interest rates and swaptions. Table D shows the year-by-year citations of individual articles. Overall, the late Fischer Black and Myron Scholes' 1973 article, *The pricing of options and corporate liabilities*, remains at the top of the table. ■

A. Top authors by year and number of citations: 2000–2004

Authors	2004	Authors	2003	Authors	2002	Authors	2001	Authors	2000
Rebonato R	12	Gordy M	13	Lipton A	15	Black F	10	Jarrow R	12
Black F	10	Merton R	11	Merton R	13	Derman E	10	Black F	11
Duffie D	10	Vasicek O	11	Derman E	8	Basel Committee	9	Duffie D	9
Merton R	10	Black F	10	Sobehart J	8	Carr P	8	Bollerslev T	8
Hull J	9	Martin R	10	Black F	7	Finger C	8	Carr P	8
Longstaff F	9	Dev A	9	Delbaen F	7	Hull J	8	Hull J	8
Andersen L	8	Duffie D	9	Andreasen J	6	Merton R	8	Scholes M	8
Schwartz E	8	Pykhtin M	9	Dupire B	6	Gordy M	7	Embrechts P	7
Vasicek O	8	Sornette D	9	Heston S	6	Scholes M	7	Turnbull S	7
Singleton K	7	Basel Committee	8	Kani I	6	Sobehart J	7	Andersen L	6
White A	7	Browne C	8	Keenan S	6	Bahar R	6	Heath D	6
Brigo D	6	Linetsky V	8	Linetsky V	6	Browne C	6	Merton R	6
Cox J	6	Thompson K	8	McNeil A	6	Kani I	6	White A	6
Derman E	6	Hull J	7	Glasserman P	5	Keenan S	6	Andersen T	5
Finger C	6	McNeil A	7	Heath D	5	Martin R	6	Andreasen J	5
Gordy M	6	Wilson T	7	Kealhofer S	5	Rebonato R	6	Delbaen F	5
Mercurio F	6	Andersen L	6	Madan D	5	Bhatia M	5	Derman E	5
Tasche D	6	Carr P	6	Nyfelner M	5	Duffie D	5	Diebold F	5
Andreasen J	5	Embrechts P	6	Rubinstein M	5	Geman H	5	Dupire B	5
Brace A	5	Tasche D	6	Scholes M	5	Gupton G	5	Fouque JP	5
Carr P	5	Altman E	5	Vasicek O	5	Longstaff F	5	Lando D	5
Gatarek D	5	Andreasen J	5	Yor M	5	Musiela M	5	Mueller U	5
Heston S	5	Avellaneda M	5			Schwartz E	5	Papanicolaou G	5
Jaekel P	5	Finger C	5			Thompson K	5	Rubinstein M	5
Jarrow R	5	Frye J	5			White A	5	Sircar R	5
Overbeck L	5	Jarrow R	5						
Ross S	5	Koyluoglu H	5						
Rubinstein M	5	Lipton A	5						
Schonbucher P	5	Madan D	5						
		Scholes M	5						
		White A	5						
		Wilde T	5						

B. Top 50 cited authors: 1988–2004

Author	No of citations	Whereabouts	Author	No of citations	Whereabouts	Author	No of citations	Whereabouts
Black F	124	Died in 1995	Wilmott P	36	Wilmott.com	McNeil A	25	Department of Mathematics, ETH
Hull J	109	University of Toronto	Gordy M	33	Federal Reserve Board	Delbaen F	24	Department of Mathematics, ETH
White A	81	University of Toronto	Turnbull S	33	University of Houston	Martin R	24	Credit Suisse First Boston
Merton R	77	Harvard Business School	Andersen L	32	Bank of America	Dewynne J	23	Southampton University
Jarrow R	74	Kamakura Corporation and Cornell University	Lipton A	32	Citadel Group	Singleton K	23	Stanford University
Scholes M	74	Oakhill Capital	Morton A	32	Lehman Brothers	Sornette D	23	University Of California
Derman E	71	Columbia University	Schwartz E	31	UCLA	Yor M	23	Universite Pierre et Marie Curie
Duffie D	52	Stanford University	Dupire B	30	Reech Capital	Embrechts P	22	Department of Mathematics, ETH
Rubinstein M	51	University Of California	Madan D	30	University Of Maryland	Rogers LCG	22	Cambridge University
Ross S	47	MIT	Rebonato R	30	Royal Bank of Scotland	Geman H	21	University Paris Dauphine
Cox J	46	MIT	Basel Committee	28	-	Heston S	21	University of Maryland
Heath D	45	Carnegie Mellon University	Finger C	28	RiskMetrics Group	Kupiec P	21	International Monetary Fund
Engle R	43	Stern School of Business, NYU	Bollerslev T	26	Duke University	Musiela M	21	BNP Paribas
Kani I	41	Martingale Technologies	Jamshidian F	26	NIB Capital	Browne C	19	Dresdner Kleinwort Wasserstein
Carr P	40	Bloomberg	Longstaff F	26	UCLA	Galai D	19	Hebrew University
Vasicek O	40	Moody's KMV	Andreasen J	25	Nordea	Glasserman P	19	Columbia University
			Ingersoll J	25	Yale University	Sobehart J	19	Citigroup

C. Most published authors in Risk: 1994–2004

Author	Total	Whereabouts	Author	Total	Whereabouts	Author	Total	Whereabouts
1. Peter Carr	7	Bloomberg	5. Neil Chriss	6	SAC Capital	Christopher Browne	5	Dresdner Kleinwort Wasserstein
Alexander Lipton	7	Citadel Group	Michael Pykhtin	6	Keycorp	Emanuel Derman	5	Columbia University
Richard Martin	7	Credit Suisse First Boston	7. Leif Andersen	5	Bank of America	Tom Wilde	5	Credit Suisse First Boston
Kevin Thompson	7	Barclays Capital						

D. Most cited papers: 1988–2004

Authors	Yr. pub.	Title	Publication/Publisher	04	03	02	01	00	99	98	97	96	95	94	93	92	91	90	89	88	Overall
Black F, Scholes M	1973	The pricing of options and corporate liabilities	Journal of Political Economy	2	5	5	7	8	12	4	11	7	5	1	2	2	2	0	0	0	73
Merton R	1974	On the pricing of corporate debt: the structure of interest rates	Journal of Finance	5	7	7	5	2	1	4	1	0	0	0	0	1	0	0	0	0	33
Hull J	2000/03	Options, futures and other derivatives	Prentice-Hall	2	2	1	2	2	5	1	4	1	3	2	1	0	0	1	0	0	27
Dupire B	1994	Pricing with a smile	Risk	4	1	5	0	4	7	2	1	1	1	0	0	0	0	0	0	0	26
Heath D, Jarrow R, Morton A	1992	Bond pricing and the term structure of interest rates	Econometrica	2	2	0	1	3	5	1	1	3	3	1	1	1	1	1	0	0	26
Derman E, Kani I	1994	Riding on a smile	Risk	1	1	5	2	1	5	1	1	2	1	0	0	0	0	0	0	0	20
Heston S	1993	A closed form solution for options with stochastic volatility with applications to bond and currency options	Review of Financial Studies	5	2	6	1	3	2	0	0	0	0	0	1	0	0	0	0	0	20
Black F	1976	The pricing of commodity contracts	Journal of Financial Economics	5	1	2	0	2	2	2	2	1	0	0	0	1	0	0	1	0	19
Press W, Teukolsky S, Vetterling W, Flannery B	1992	Numerical recipes in C: the art of scientific computing	Cambridge Univ. Press	3	2	0	4	2	1	0	1	3	0	0	0	0	0	0	0	0	16
Cox J, Ingersoll J, Ross, S	1985	A theory of the term structure of interest rates	Econometrica	1	1	0	1	1	2	1	1	1	3	0	1	1	0	1	0	0	15
Merton R	1973	The theory of rational option pricing	Bell Journal of Economics and Management Science	1	0	0	1	2	1	2	3	2	0	0	0	0	0	0	3	0	15
Merton R	1976	Option pricing when underlying stock returns are discontinuous	Journal of Financial Economics	3	2	5	0	1	3	0	0	0	1	0	0	0	0	0	0	0	15
Black F, Derman E, Toy W	1990	A one-factor model of interest rates and its application to Treasury bond options	Financial Analysts Journal	2	0	0	1	0	0	1	1	0	3	1	1	1	1	2	0	0	14
Gupton G, Finger C, Bhatia M	1997	CreditMetrics: technical document	Working paper	1	2	0	5	1	3	2	0	0	0	0	0	0	0	0	0	0	14
Ho T, Lee S	1986	Term structure movements and pricing interest rate contingent claims	Journal of Finance	0	0	0	0	0	0	1	2	1	2	1	1	2	2	2	0	0	14
Hull J, White A	1990	Pricing interest rate derivative securities	Review of Financial Studies	1	0	0	0	0	1	0	1	1	4	0	1	2	1	2	0	0	14
Brace A, Gatarek D, Musiela M	1997	The market model of interest rate dynamics	Mathematical Finance	3	1	0	3	2	2	0	0	1	1	0	0	0	0	0	0	0	13
Gordy M	2000	A comparative anatomy of credit risk models	Journal of Banking and Finance	0	3	2	5	3	0	0	0	0	0	0	0	0	0	0	0	0	13
Gordy M	2003	A risk-factor model foundation for rating-based bank capital rules	Journal of Financial Intermediation	3	6	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Rubinstein M	1994	Implied binomial trees	Journal of Finance	1	0	1	0	2	4	0	1	2	1	0	0	0	0	0	0	0	12
Cox J, Ross S, Rubinstein M	1979	Option pricing: a simplified approach	Journal of Financial Economics	1	0	2	0	0	1	0	2	0	0	1	1	1	1	0	1	0	11
Duffie D, Singleton K	1999	Modelling term structure models of defaultable bonds	Review of Financial Studies	1	3	0	3	1	2	1	0	0	0	0	0	0	0	0	0	0	11
Jamshidian F	1997	Libor and swap market models and measures	Finance and Stochastics	2	0	1	3	2	2	0	0	1	0	0	0	0	0	0	0	0	11
Jorion P	2001	Value at risk: the new benchmark for controlling market risk	McGraw Hill	0	3	3	0	1	0	3	1	0	0	0	0	0	0	0	0	0	11
Koyluoglu H, Hickman A	1998	Reconcilable differences	Risk	0	4	1	4	1	1	0	0	0	0	0	0	0	0	0	0	0	11
Vasicek O	1977	An equilibrium characterisation of the term structure	Journal of Financial Economics	0	1	0	0	0	2	1	1	1	3	1	1	0	0	0	0	0	11
CSFP (Wilde)	1997	CreditRisk+: a credit risk management framework	Working paper	0	2	0	4	0	1	2	0	0	0	0	0	0	0	0	0	0	9
Jarrow R, Turnbull S	1995	Pricing derivatives on financial securities subject to credit risk	Journal of Finance	2	1	0	0	2	1	2	1	0	0	0	0	0	0	0	0	0	9
Karatzas I, Shreve S	1991/97	Brownian motion and stochastic calculus	Springer	1	0	1	0	2	3	1	1	0	0	0	0	0	0	0	0	0	9
Artzner P, Delbaen F, Eber JM, Heath D	1999	Coherent measures of risk	Mathematical Finance	2	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	8
Cox J, Ross S	1976	The valuation of options for alternative stochastic processes	Journal of Financial Economics	2	0	0	0	0	1	0	3	1	0	0	0	1	0	0	0	0	8
Crouhy M, Galai D, Mark R	2000	A comparative analysis of current credit risk models	Journal of Banking and Finance	2	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Embrechts P, McNeil A, Straumann D	1999	Correlation: pitfalls and alternatives	Risk	0	1	2	1	2	2	0	0	0	0	0	0	0	0	0	0	0	8
Finger C	1999	Conditional approaches for CreditMetrics portfolio distributions	CreditMetrics Monitor	2	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	8
Jarrow R, Lando D, Turnbull S	1997	A Markov model for the term structure of credit risk spreads	Review of Financial Studies	0	1	0	1	2	3	1	0	0	0	0	0	0	0	0	0	0	8
JP Morgan	1996	RiskMetrics technical document	Working paper	0	2	0	1	2	0	1	1	1	0	0	0	0	0	0	0	0	8
Li D	2000	On default correlation: a copula function approach	Journal of Fixed Income	1	1	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Rubinstein M, Reiner E	1991	Breaking down the barriers	Risk	0	0	0	2	0	0	1	3	1	1	0	0	0	0	0	0	0	8
Vasicek O	1987	Probability of loss on loan portfolio	KMV working paper	2	3	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	8
Basel Committee	2001	The IRB rating approach	Working paper	0	1	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Engle R	1982	Autoregressive conditional heteroskedasticity with estimates of the variance of the UK inflation	Econometrica	0	0	2	1	0	0	0	0	2	1	0	0	1	0	0	0	0	7
Gourieroux C, Laurent JP, Scaillet O	2000	Sensitivity analysis of VAR	Journal of Empirical Finance	1	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Hull J, White A	1994	Numerical procedures for implementing term structure models	Journal of Derivatives	0	0	0	0	0	3	2	1	0	0	1	0	0	0	0	0	0	7
Hull J, White A	1987	The pricing of options on assets with stochastic volatilities	Journal of Finance	1	2	0	1	1	0	0	0	1	0	0	1	0	0	0	0	0	7
Martin R, Thompson K, Browne C	2001	VAR: who contributes and how much?	Risk	1	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Pykhtin M and Dev A	2002	Analytical approach to credit risk modelling	Risk	2	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Vasicek O	2002	Loan portfolio value	Risk	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Wilmott P, Howison S, Dewynne J	1995	The mathematics of financial derivatives	Cambridge Univ. Press	0	0	0	0	0	1	2	2	0	2	0	0	0	0	0	0	0	7
Wilson T	1997	Portfolio credit risk	Risk	0	2	1	2	0	0	2	0	0	0	0	0	0	0	0	0	0	7

E. Rate of publication in Risk

Year	Number of papers received	Rate of publication	Rate of rejection	Rate of withdrawal	Average time to publication
2002	54	56%	24%	20%	5.6 months
2003	93	41%	31%	28%	6.9 months