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University of Sussex Business School
Email: c.alexander@sussex.ac.uk

EDUCATION

1976 B.Sc. (Sussex) in Mathematics with Experimental Psychology (First Class)
1980 Ph.D. (Sussex) in Algebraic Number Theory (Supervised by Walter Ledermann)
1985 M.Sc. (LSE) in Mathematical Economics and Econometrics

APPOINTMENTS

1977 – 1978 Editor, John Wiley (one year interim PhD research)
1981 – 1982 Postdoctoral Research Fellow, University of Amsterdam
1982 – 1983 Bond Analyst, UBS Phillips and Drew, London
1983 – 1985 Teaching and Research Assistant, London School of Economics (part-time)
1985 – 1996 Lecturer in Mathematics and Economics, University of Sussex
1996 – 1998 Lecturer in Mathematics, University of Sussex (part-time)
1996 – 1998 Academic Director, Algorithmics Inc., London (part-time)
1998 Director, Head of Market Risk Modelling, Nikko Securities, London
1998 – 1999 Visiting Research Fellow, Oxford Centre for Industrial and Applied Mathematics
1999 – 2012 Chair of Financial Risk Management, ICMA Centre, Henley Business School
2012 – now Professor of Finance, University of Sussex
2013 – 2014 Head of Business and Management (now University of Sussex Business School)
2019 – now Visiting Professor, Peking University

GRANTS

1981 Leverhulme Foundation Post-Doctoral Award
1986 Nuffield Foundation Award for New Science Lecturers
1994 ESRC: Chaos in Financial Markets
2003 Foundation for Managed Derivatives Research
2003 British Academy (with Simon Burke, Henley Business School)
2005 Australian Prudential Regulatory Authority (with Elizabeth Sheedy, Macquarie)
2008 Europlace Institute of Finance (with Steve Ohana, ESCP-EAP)
2014 Global Risk Institute (with Andreas Kaeck)

HONOURS, PATENTS and AWARDS

1996 Winner, First International Non-Linear Financial Forecasting Competition (with Ian Giblin)
2002 Honorary Professorship, Academy of Economic Sciences, Bucharest
2003 International Financial Risk Institute (IFRI), 9th Roundtable Award
2007 Professional Risk Managers International Association (PRMIA)
Higher Standard Award (with Robert Merton)
2009 [U.S. Patent Number 7,571,130](#): Hedging exchange traded mutual funds or other portfolio basket products
2010 University of Reading award for outstanding contributions to teaching and learning
2011 [U.S. Patent Number 7,979,336](#): A system for pricing financial instruments

EXTERNAL ACADEMIC ACTIVITIES

2002 – 2012	Chair of Academic Advisory Council, Chairman of Board PRMIA
2003 – 2006	Expert Witness, Richards Butler, London
2007 – 2009	Editorial Board, Journal of Banking and Finance
2011 – 2013	Editorial Board, Journal of Investment Strategies
2007 – now	Editorial Board, Journal of Portfolio Management
2011	External Assessor, PhD Programme in Economics and Finance, St. Gallen University
2011 – 2013	Member of CFA Advisory Council
2013 – now	Co-Editor of Journal of Banking and Finance, Elsevier
2015 – now	Advisory Editor, Journal of Commodity Markets, Elsevier
2018 – now	Steering Committee Member, Centre for Financial Industries, Fields Institute
2021 – now	Scientific Advisory Board Member, Fintech and AI in Finance, European Cooperation in Science and technology (COST) Action

Invited Talks at Professional Conferences

2003	9th Annual Round Table of the International Financial Risk Institute (IFRI, London)
2003	1st International Congress on Financial and Derivatives Markets, (BM&F, Brazil)
2007	Risk and Return Russia, (Moscow)
2007	Quant Congress Europe (London)
2008	Quant Congress Europe (Paris)
2009	Quant Congress Europe (Amsterdam)
2009	Quant Congress USA (New York)
2010	FOW Derivatives World (London), Post-Crisis Risk Measurement (CFA UK)
2010	Changing Risk Landscape, Financial Times (London)
2011	Model Risk Validation (Paris)
2012	PRMIA 10th Anniversary Global Risk Conference (New York)
2012	Royal Institution 14-10 Club (London)
2016	KPMG Chair Address to Chief Risk Officers, (Frankfurt)
2019	QuantMinds International (Hamburg)
2019	Cryptocompare Digital Asset Summit (London)
2020	QuantMinds International (virtual)
2020	Cryptocompare Digital Asset Summit, London
2020	Westminster Business Forum Policy Conference: Fintech in the UK (virtual)
2020	Quant Insights (virtual)
2021	See my public talks webpage for full details

Plenary or Keynote Talks at Academic Conferences

2003	New Directions in Risk Management, Frankfurt
2004	German Finance Association 9th Annual Congress, Augsburg
2004	Campus for Finance, Germany
2005	Quantitative Methods in Finance Conference, Sydney
2008	Third Annual Mathematics in Finance International Conference, Kruger, South Africa
2010	HVB-Institute for Mathematical Finance, Munich
2011	Campus for Finance, Germany
2012	Ninth Applied Financial Economics Conference, Greece

2013	Fields Institute, Toronto, Canada
2017	Fourth Conference on Non-linear Dynamics and Financial Markets, Paris
2018	Fifth International Symposium in Computational Economics and Finance
2018	EURO2018: 29th Annual European Conference of Operational Research Societies
2021	Sustainable Finance Conference, Birmingham University (virtual)
2021	Financial Economics Meeting: Post-Crisis Challenges (virtual)
2021	Brazilian Finance Meeting (virtual)
2021	7th International Young Finance Scholar's Conference (virtual)
2021	Cryptocurrency Research Conference (virtual)
2022	4th Asia Conference on Business and Economic Studies, Vietnam
2022	4th International Conference on Computational Finance, Germany

Selected Refereeing

Journal of Banking & Finance, Financial Analysts Journal, Finance & Stochastics, Quantitative Finance, Journal of Portfolio Management, Journal of Futures Markets, Journal of Economic Dynamics & Control, Journal of Applied Econometrics, Journal of Financial Econometrics, Journal of Business Finance & Accounting, European Financial Management, Annals of Econometrics, Applied Mathematical Finance, Journal of Alternative Investments, Applied Financial Economics, European Journal of Finance, European Journal of Operational Research, Review of Finance, Review of Financial Studies

PhD Examining

2008	External Examiner	Imperial College Student of Mark Davis
2009	External Examiner	University Paris-Dauphine Student of Helyette German
2015	External Examiner	University of Cambridge Student of Andrew Harvey
2021	External Examiner	University of York Student of Alexander McNeil
2021	External Examiner	University of Oxford Student of Rama Cont

INDUSTRY LINKS

Consultancy

1990 – 1991	First Generation GARCH Models, Hill Samuel Bank, London
1992	Volatility Trading Models, Equitable House Investments, London
1994 – 2003	Hedge Fund Strategy Design, Pennoyer Capital Management, New York
1996 – 1997	Spot-Futures Arbitrage Models, ED&F Man, London
1996	Internal Value-at-Risk Model Design, Shell Pension Fund, Netherlands
1997 – 1998	Orthogonal GARCH Models, Robert Fleming, London
2001 – 2007	High Frequency Pricing and Hedging for Active ETFs, NYSE/AMEX, New York
2003 – 2006	Expert Advice, Richards Butler, London
2007 – 2008	Risk Research Advisor, SAS International
2009 – 2010	Value-at-Risk Model Design, Credit Agricole Asset Management, London
2012 – 2013	Fund Strategy Design, Tindoco Asset Management, Zurich

2012 – 2014	Margin Model Validation, ICE Clear Europe
2015 – 2016	Real Options Decisions, Defence Science and Technology Laboratory
2017 – now	Affiliated Academic Consultant, Fideres
2019	Crypto Risk and Portfolio Advisory, Coinstrats, London
2020	Development of Bitcoin Implied Volatility Index, CryptoCompare, London

Professional Risk Manager's International Association (PRMIA)

2002 – 2009	Founding Chair of the Academic Advisory Council
2003 – 2004	Co-Edited Professional Risk Manager's Handbook (3 volumes, with E. Sheedy, Macquarie)
2007	Recipient of Higher Standard Award (with Robert Merton)
2009 – 2012	Board Member
2010 – 2012	Chair of Board and Founding Editor of Intelligent Risk

TEACHING

1985 – 1998		University of Sussex
	Econometrics, PG	Economics
	Mathematics for Economists, 2yr UG	Economics
	Mathematics for Biologists, 1yr UG	Mathematics
	Group Theory, 2yr UG	Mathematics
	Linear Algebra, 1yr UG	Mathematics
	Microeconomics, 2yr UG	Economics
	Macroeconomics, 2yr UG	Economics
	Statistics, 2yr UG	Mathematics
	Game Theory, PG	Mathematics
2000 -2012		University of Reading
	Market Risk, PG	ICMA Centre
	Volatility Analysis, PG	ICMA Centre
	Quantitative Methods for Finance, PG	ICMA Centre
2012 – 2018		University of Sussex
	Topics in Finance, PG	Mathematics
	Hot Topics in Finance, MBA	Business School
	Essential Quantitative Finance, PG	Business School
	Advanced Quantitative Finance, PG	Business School
	Financial Risk Management, UG	Business School
	Blockchains and Crypto Assets, UG & PG	Business School
2018		TU Munich
	Advanced Volatility Analysis, PG	
2019		Peking University
	Financial Risk Management, PG	HSBC Business School
2018 – now		University of Sussex
	Financial Risk Management, UG	Business School

Blockchains and Crypto Assets, UG & PG Business School

INTERNAL ADMINISTRATION

- 1985 – 1999** **Convenor of BSc/BA Degrees** **University of Sussex**
Joint Degrees in Mathematics and Economics
- 2005 – 2012** **Convenor of MSc Degrees** **ICMA Centre**
MSc Financial Risk Management, MSc Financial Engineering
- 2005 – 2011** **Postgraduate Exchange** **ICMA Centre-TU Munich**
Supervising Finance and Information Management MSc Students
- 2000 – 2012** **Director of Research, Director of Enterprise** **ICMA Centre**
Established ICMA Centre research reputation, development of industry links
- 2013 – 2014** **Head of Business and Management** **University of Sussex**
Managed development, expansion and transition to UoS Business School
Jan 2013 to Dec 2014 – period of great change and rapid growth

PhD SUPERVISION

- 2004 Ali Bora Yigitbasioglu Defaultable Convertible Bonds
with Volatility Uncertainty and Call Notice Periods
Head of FX Total Return and Fixed Income, Pictet Asset Management, London
- 2004 Anca Dimitriu Portfolio Optimization Models
for Traditional and Alternative Investments
Partner, Albourne Partners, London
- 2005 Dmitri Lvov Pricing Convertible Bonds and Bermudan Swaptions
by Monte Carlo Simulation
Executive Director, Commodities Quant Research, JP Morgan, London
- 2006 Leonardo Nogueira Pricing and Hedging Options with
Local and Stochastic Volatility Models
Head of the Deputy Governor's Office for Monetary Policy, Brazilian Central Bank
- 2006 Emese Lazar Multi-State Volatility Models: Theory and Applications
Associate Professor in Finance, ICMA Centre, Henley Business School at Reading
- 2007 Andreza Barbosa Pricing and Hedging Exchange Traded Funds
Executive Director, Model Risk Management, Goldman Sachs, London.
- 2008 Naoufel El Bachir Stochastic Default Intensity Modeling
with Dependent Jump Processes
Executive Director, XVA Lead Quantitative Analyst at CIBC Capital Markets, London
- 2008 Aanand Venkatrammanan Multi-Asset Option Pricing
Vice President, ETF Investment Strategies at Legal & General IM, London
- 2010 Joydeep Lahiri Jump Diffusions for Modelling Default Intensity
Quantitative Risk Manager and Vice President at Swiss Re London
- 2010 Stamatis Leontsinis Model-Free Moment Indices

		<i>Research Director, Quantitative Derivative Strategies, CdR Capital Ltd, London.</i>
2010	Silvia Stanescu	Analytic Moments for GARCH Processes <i>Quantitative Analyst, Cantab Capital Partners</i>
2010	Andreas Kaeck	Equity Index and Index Derivative Dynamics <i>Professor of Finance, University of Sussex</i>
2010	Daniel Ledermann	Random Orthogonal Matrix Simulation <i>Senior Quantitative Analyst, HSBC, London</i>
2012	Dimitris Korovilas	Trading Volatility <i>Investment Product Specialist at Scientific Beta</i>
2013	Julia Kapraun	Volatility Investments <i>Assistant Professor, Goethe University, Germany</i>
2014	Anannit Sumawong	Trading and Hedging Energy Futures <i>Senior Associate, PWC, London.</i>
2014	Xi Chen	Real Options and Decisions in Corporate Finance <i>Lecturer, University of Sussex</i>
2015	Johannes Rauch	Higher Moment Risk Premia and Discretization Invariance <i>Consultant, Oliver Wyman, London</i>
2019	Yang Han	New Methods for Multivariate Distribution Forecasting <i>Consultant, McKinzie and Company, Munich</i>
2021 (Exp)	Michael Dakos	Econometric Analysis of Crypto Asset Markets <i>University of Sussex</i>
2022 (Exp)	Wei Wei	Simulation with Exact Multivariate Skewness and Kurtosis <i>University of Sussex</i>
2023 (Exp)	Daniel Heck	Information Flows in Crypto Asset <i>University of Sussex</i>
2023 (Exp)	Arben Imeraj	Bitcoin Options <i>University of Sussex</i>
2024 (Exp)	Yan Li	Shipping Networks <i>University of Sussex</i>

INTERNATIONAL UNIVERSITY LINKS

2005 – 2019 MSc Student Exchange

TU Munich

Supervision of dissertations and research papers for MSc students

Collaboration with Professor Rudi Zagst, Chair of Mathematical Finance, TU Munich

2010 – 2011 Academic Visitor

University of Cantabria, Spain

Research collaboration with Jose Maria Sarabia, Professor of Statistics, Department of Economics

2011 External Assessor

St. Gallen University, Switzerland

Finance assessor for teaching quality on Ph.D. Program in Economics and Finance

– with Bo Honore (Economics) and Yacine Ait-Sahalia (Econometrics)

2012

Trondheim University, Norway

Norwegian National PhD Student Summer School in Quantitative Finance Research

Collaboration with Prof. Sjur Westgaard, Norwegian University for Science and Technology

7. Alexander, C., Meng, X. and W. Wei (2021) Targetting Kollo Skewness with Random Orthogonal Matrix Simulation. *European Journal of Operational Research*, [Available Online](#)
8. Alexander C. and X. Chen (2021) Model Risk in Real Option Valuation *Annals of Operations Research*, 299(1), 1025-1056
9. Alexander, C. and A. Imeraj (2021) The Bitcoin VIX and its Variance Risk Premium. *Journal of Alternative Investments*, 23 (4) 84-109
10. Alexander, C. and J. Rauch (2021) A General Property for Time Aggregation. *European Journal of Operational Research*, 291(2), 536-548
11. Alexander, C. and E. Lazar (2021) The Continuous Limit of Weak GARCH. *Econometric Reviews* 40(2), 197-216
12. Alexander, C., Lazar, E. and S. Stanescu (2021) Analytic Moments for GARCH Processes. *International Journal of Forecasting* 37(1), 105-124
13. Alexander, C. and D. Heck (2020) Price Discovery in Bitcoin: The Impact of Unregulated Markets. *Journal of Financial Stability* 50, 1-18.
14. Alexander, C., Choi, J., Massie, H. and S. Sohn (2020) Price Discovery and Microstructure in Ether Spot and Derivatives Markets. *International Review of Financial Analysis*, 71
15. Alexander C., Choi, J., Park, H., and S. Sohn (2019) BitMEX Bitcoin Derivatives: Price Discovery, Informational Efficiency and Hedging Effectiveness. *Journal of Futures Markets*, 40(1) 23-43
16. Alexander C. and M. Dakos (2019) A Critical Investigation of Cryptocurrency Data and Analysis *Quantitative Finance*, 20(2), 173-188
17. Alexander C., Kaeck, A. and Sumawong, A. (2019) A Parsimonious Parametric Model for Generating Margin Requirements for Futures *European Journal of Operational Research*, 273(1), 31-43
18. Leontsinis, S., and C. Alexander (2017) Arithmetic Variance Swaps *Quantitative Finance*, 17(4), 551-569.
19. Alexander, C., Korovilas, D. and J. Kapraun (2016) Diversification with Volatility Products *Journal of International Money and Finance*, 65, 213-235
20. Alexander, C., J. Kapraun and Korovilas, D. (2015) Trading and Investing in Volatility Products *Financial Markets, Institutions and Instruments*, 24(4), 313-347
21. Alexander, C., Lazar, E. and S. Stanescu (2013) Forecasting VaR using Analytic Higher Moments for GARCH Processes *International Review of Financial Analysis* 30, 36-45
22. Kaeck, A. and C. Alexander (2013) Stochastic Volatility Jump-Diffusions for European Equity Index Dynamics. *European Financial Management* 19(3), 470-496
23. Alexander, C. and D. Korovilas (2013) Volatility Exchange-Traded Notes: Curse or Cure? *Journal of Alternative Investments* 15(2), 52-70
24. Kaeck, A. and C. Alexander (2013) Continuous-time VIX Dynamics: On the Role of Stochastic Volatility of Volatility. *International Review of Financial Analysis* 28, 45-46
25. Alexander, C., Propoczuk, M. and A. Sumawong (2013) The (De)merits of Minimum-Variance Hedging: Application to the Crack Spread. *Energy Economics* 36, 698-707

26. Ledermann, D. and C. Alexander (2012) Further Properties of Random Orthogonal Matrix Simulation. *Mathematics and Computers in Simulation* 83, 56-79
27. Kaeck, A. and C. Alexander (2012) Volatility Dynamics for the S&P 500: Further Evidence from Non-affine, Multi-factor Jump Diffusions. *Journal of Banking and Finance* 36(11), 3110-3121
28. Alexander, C. and J-M. Sarabia (2012) Quantile Uncertainty and Value-at-Risk. *Risk Analysis: An International Journal* 32(8), 1293-1308
29. Alexander, C., Cordeiro, G., Ortega, E. and J-M. Sarabia (2012) Generalized Beta-Generated Distributions. *Computational Statistics and Data Analysis* 56(6), 1880-1897
30. Alexander, C. and A. Venkatramanan (2012) Analytic Approximations for Multi-Asset Option Pricing. *Mathematical Finance* 22(4), 667-689
31. Alexander, C. and A. Kaeck (2012) Does Model Fit Matter for Hedging? Evidence from FTSE 100 Options. *Journal of Futures Markets* 32(7), 609-638
32. Alexander, C., A. Rubinov, M. Kalepky and S. Leontsinis (2012) Regime-Dependent Smile-Adjusted Delta Hedging. *Journal of Futures Markets*. 32(3), 202-229
33. Venkatramanan, A. and C. Alexander (2011) Closed-form Approximations for Spread Options. *Applied Mathematical Finance*. 18(5), 447-472
34. Ledermann, W., Alexander, C. and D. Ledermann (2011) Random Orthogonal Matrix Simulation. *Linear Algebra and its Applications*, 434, 1444-1467
35. Alexander, C. and E. Lazar (2009) Modelling Regime-Specific Stock Price Volatility. *Oxford Bulletin of Economics and Statistics*, 71:6, 761 - 797
36. Alexander, C., A. Kaeck and L. Nogueira (2009) Model Risk Adjusted Hedge Ratios. *Journal of Futures Markets*, 29:11, 1021-1045
37. Alexander, C. and E. Sheedy (2008) Developing a Stress Testing Framework based on Market Risk Models. *Journal of Banking and Finance*, 32:10, 2220-2236
38. Alexander, C. and A. Kaeck (2008) Regime-Dependent Determinants of Credit Default Swap Spreads. *Journal of Banking and Finance*, 32:6, 1008 - 1021.
39. Alexander, C. and A. Barbosa (2008) Hedging Exchange Traded Funds. *Journal of Banking and Finance*, 32:2, 326-337
40. Alexander, C. and L. Nogueira (2007) Model-Free Price Hedge Ratios for Homogeneous Claims on Tradable Assets. *Quantitative Finance*, 7:5, 473 - 479
41. Alexander, C. and A. Barbosa (2007) Effectiveness of Minimum-Variance Hedging. *Journal of Portfolio Management*, 33:2, 46 - 59
42. Alexander, C. and L. Nogueira (2007) Model-Free Hedge Ratios and Scale-Invariant Models. *Journal of Banking and Finance*, 31:6, 1839-1861
43. Yigitsbasioglu, A. and C. Alexander (2006) Pricing and Hedging Convertible Bonds: Delayed Calls and Uncertain Volatility. *International Journal of Theoretical and Applied Finance*, 9:2, 415-437
44. Alexander, C. and E. Lazar (2006) Normal Mixture GARCH: Applications to Foreign Exchange Markets. *Journal of Applied Econometrics*, 21:2 307-336
45. Alexander, C. and A. Dimitriu (2005) Rank Alpha Funds of Hedge Funds. *Journal of Alternative Investments*, 8:2, 48-61

46. Alexander, C. and A. Dimitriu (2005) Detecting Switching Strategies in Equity Hedge Fund Returns. *Journal of Alternative Investments*, 8:1, 7-13
47. Alexander, C. (2005) The Present and Future of Risk Management. *Journal of Financial Econometrics*, 3:1, 3-25
48. Alexander, C. and A. Barbosa (2005) The Spider in the Hedge. *Review of Futures Markets*, 11:1, 89-113
49. Alexander, C. and A. Dimitriu (2005) Indexing and Statistical Arbitrage: Tracking Error or Cointegration? *Journal of Portfolio Management*, 31:2, 50-63
50. Alexander, C. and A. Dimitriu (2005) Indexing, Cointegration and Equity Market Regimes. *International Journal of Finance and Economics*, 10, 213-231
51. Alexander, C. and A. Scourse (2004) Bivariate Normal Mixture Spread Option Valuation. *Quantitative Finance*, 4:6 1-12
52. Alexander, C. (2004) Normal Mixture Diffusion with Uncertain Volatility: Modelling Short- and Long-Term Smile Effects. *Journal of Banking and Finance*, 28:12, 2957-2980
53. Alexander, C. and A. Dimitriu (2004) Sources of Out-Performance in Equity Markets: Common Trends, Mean Reversion and Herding. *Journal of Portfolio Management*, 30:4, 170-185
54. Alexander, C. and A. Dimitriu (2004) Equity Indexing: Optimising Passive Investments. *Quantitative Finance*, 4:3 C30 - C33
55. Alexander, C. (2002) Principal Component Models for Generating Large Covariance Matrices. *Review of Banking, Finance and Monetary Economics, Economic Notes*, 31:2, 337-359
56. Alexander, C., I. Giblin and W. Weddington (2002) Cointegration and Asset Allocation: A New Active Hedge Fund Strategy. *Research in International Business and Finance*, 16, 65-90
57. Alexander, C. (2000) Measuring Operational Risks with Bayesian Belief Networks. *Derivatives, Use Trading and Regulation*. 6:2, 166-196
58. Alexander, C. (1999) Optimal Hedging using Cointegration. *Philosophical Transactions of the Royal Society Series A*, 357, 2039-2058
59. Alexander, C. and C. Leigh (1997) On the Covariance Matrices used in Value-at-Risk Models. *Journal of Derivatives*, 4:3 50-62
60. Alexander, C. and I. Giblin (1996) Multivariate Embedding Methods: Forecasting High-Frequency Data in the First International Non-Linear Financial Forecasting Competition. *Journal of Computational Intelligence in Finance*, 5:6, 17-24
61. Alexander, C. and W. Ledermann (1996) Are Nash Bargaining Wage Agreements Unique? An Investigation into Bargaining Sets for Firm/Union Negotiations. *Oxford Economic Papers*, 48:2, 1-11
62. Alexander, C. and J. Wyeth (1996) Causality Testing in Models of Spatial Market Integration. *Journal of Development Studies*, 32:1, 144-146
63. Alexander, C. (1996) Evaluating the Use of RiskMetrics as a Risk Measurement Tool. *Derivatives: Use Trading and Regulation*, 2:3, 277-285

64. Alexander, C. and H. Rendall (1995) Data Generation Processes of Spatial Series: Analysis of Ephemeral Channel Form. *Geographical Analysis*, 27:1, 78-93
65. Alexander, C. (1995) Common Volatility in the Foreign Exchange Market. *Applied Financial Economics*, 5:1, 1-10.
66. Alexander, C. and J. Wyeth (1994) Cointegration and Market Integration: an Application to the Indonesian Rice Market. *Journal of Development Studies*, 30:2, 303-308
67. Alexander, C. and M. Barrow (1994) Seasonality and Cointegration of Regional House Prices in the UK. *Urban Studies*, 31:10, 1667-1689
68. Alexander, C. and W. Ledermann (1994) The Constrained Nash Bargaining Solution. *Journal of the Operational Research Society*, 45:5, 954-958
69. Alexander, C. (1993) The Changing Relationship between Productivity, Wages and Unemployment in the U.K. *Oxford Bulletin of Economics and Statistics*, 55:1, 87-102
70. Alexander, C. and A. Johnson (1992) Are Foreign Exchange Markets Really Efficient? *Economics Letters*, 40, 449-453
71. Alexander, C., I. Giblin and D. Newton (1992) The Symmetry of Fractals. *Mathematical Intelligencer*, 14:2, 32-34
72. Alexander, C. (1992) The Kalai-Smorodinsky Bargaining Solution in Wage Negotiations. *Journal of the Operational Research Society*, 43:8, 779-786
73. Alexander, C. (1988) On a Converse to the Tschebotarev Density Theorem. *Journal of the Australian Mathematical Society Series A*, 44, 287-293
74. Alexander, C. (1987) Duality in Non-Normal Quartic Number Fields. *American Mathematical Monthly*, 94, 279-284
75. Alexander, C. and W. Ledermann (1985) Integral Bases of Dihedral Number Fields. *Journal of the Australian Mathematical Society Series A*, 38, 351-371

Authored Books

76. Alexander, C. (2008) Market Risk Analysis, Volume I: Quantitative Methods in Finance. Wiley
77. Alexander, C. (2008) Market Risk Analysis, Volume II: Practical Financial Econometrics. Wiley
78. Alexander, C. (2008) Market Risk Analysis, Volume III: Pricing, Hedging and Trading Financial Instruments. Wiley
79. Alexander, C. (2008) Market Risk Analysis, Volume IV: Value at Risk Models. Wiley
80. Alexander, C. (2001) Market Models: A Guide to Financial Data Analysis. Wiley

Edited Books

81. Alexander, C. and D. Cumming eds. (2020) Corruption and Fraud in Financial Markets: Malpractice, Manipulation and Misconduct. Wiley
82. Alexander, C. and E. Sheedy eds. (2008) The Professional Risk Manager's Guide to Finance Theory and Application. McGraw-Hill
83. Alexander, C. and E. Sheedy eds. (2008) The Professional Risk Manager's Guide to Financial Markets. McGraw-Hill

84. Alexander, C. and E. Sheedy eds. (2008) *The Professional Risk Manager's Guide to Financial Instruments*. McGraw-Hill
85. Alexander, C. and E. Sheedy eds. (2004) *The Professional Risk Manager's Handbook: Volume 1, Finance Theory, Instruments and Markets*. PRMIA Publications, Illinois
86. Alexander, C. and E. Sheedy eds. (2004) *The Professional Risk Manager's Handbook: Volume 2, Financial Mathematics*. PRMIA Publications, Illinois
87. Alexander, C. and E. Sheedy eds. (2004) *The Professional Risk Manager's Handbook: Volume 3, Financial Risk Management*. PRMIA Publications, Illinois
88. Alexander, C. ed. (2003) *Operational Risk: Regulation, Analysis and Management*. FT-Prentice Hall
89. Alexander, C. ed. (2001) *Mastering Risk Volume II*. FT-Prentice Hall
90. Alexander, C. ed. (2000) *Visions of Risk*. FT-Prentice Hall
91. Alexander, C. ed. (1998) *Risk Management and Analysis Volume I: Measuring and Modelling Financial Risk*. Wiley
92. Alexander, C. ed. (1998) *Risk Management and Analysis Volume II: New Markets and Products*. Wiley
93. Alexander, C. ed. (1996) *The Handbook of Risk Management and Analysis*. Wiley
94. Alexander, C. (1980-1990) *The Handbook of Applicable Mathematics*. Assistant editor volumes I - V and co-editor volume VI. Wiley

Book Chapters, Reports and Conference Papers

95. Alexander, C. (2008) Hedging the risk of energy futures portfolios. *Risk-Management in Commodity Markets: From Shipping to Agriculturals and Energy*, H. Geman ed., Wiley
96. Alexander, C. (2008) Moving average models for volatility and correlation. *Handbook of Finance, Volume 1*, F. J. Fabozzi ed., Wiley
97. Alexander, C. (2008) Statistical models of operational loss. *Handbook of Finance, Volume 1*, F. J. Fabozzi ed., Wiley
98. Alexander, C. and A. Venkatramanan (2008) Commodity options. *Handbook of Commodity Investing*, F.J. Fabozzi, R. Fuss and D.G. Kaiser eds., Wiley
99. Alexander, C. and A. Dimitriu (2006) Rank alpha funds of hedge funds. *Fund of Hedge Funds: Performance, Assessment, Diversification and Statistical Properties*, G. N. Gregoriou ed., Elsevier
100. Alexander, C. (2005) Assessment of operational risk capital. *Risk Management: Challenge and Opportunity*, M. Frenkel, U. Hommel and M. Rudolf eds., Springer
101. Alexander, C. and A. Dimitriu (2005) Hedge Fund Index Tracking. *Hedge Funds: Insights in Performance Measurement, Risk Analysis, and Portfolio Allocation*, G.N. Gregoriou, G. Hubner, N. Papageorgiou, and F. Rouah eds., Wiley
102. Alexander C. and A. Dimitriu (2004) *The Art of Investing*. *Hedge Funds: Fund Selection and Optimal Allocations*. *Intelligent Hedge Fund Investing*, Barry Schachter ed., Risk Publications

103. Alexander, C. and L. Nogueira (2004) Stochastic local volatility. Proceedings of the second international IASTED conference on financial engineering and applications, MIT, 136-141
104. Alexander, C. and E. Lazar (2004) Time aggregation of normal mixture GARCH. Proceedings of the second international IASTED conference on financial engineering and applications, MIT, 210-215
105. Alexander, C. (2004) Principles of the skew. Exotic Options, Alexander Lipton ed., Risk Publications
106. Alexander, C. (2004) Correlation in crude oil and natural gas markets. Managing Energy Price Risk 3rd Edition V. Kaminsky ed., Risk Publications
107. Alexander, C. (2004) Advanced value-at-risk Models. Professional Risk Managers Handbook, Volume III, C. Alexander and E. Sheedy eds., PRMIA Publications
108. Alexander, C. (2004) Operational value-at-risk. Professional Risk Managers Handbook, Volume III, C. Alexander and E. Sheedy eds., PRMIA Publications
109. Alexander, C. and Pezier, J. (2003) Assessment and aggregation of banking risks. Commissioned report. International Financial Risk Institute (IFCI)
110. Alexander, C. (2003) Statistical models for operational loss. Operational Risk: Regulation, Analysis and Management, C. Alexander ed., Pearson
111. Alexander, C. (2003) Managing operational risks with Bayesian networks. Operational Risk: Regulation, Analysis and Management, C. Alexander ed., Pearson
112. Alexander, C. (2001) Orthogonal GARCH. Mastering Risk Volume II, C. Alexander ed., Pearson
113. Alexander, C. (2001) Bayesian methods for measuring operational risks. Mastering Risk Volume II, C. Alexander ed., Pearson
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