Abhay Singh
Senior Lecturer/Finance Decision Lab Coordinator

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Biography

My primary area of research is in Financial Risk Modelling, including Econometrics and Multivariate Analysis, Investment Analysis and Asset Pricing. My ongoing projects include Multivariate Analysis using Vine Copulas, Financial Risk Modelling and forecasting using Econometric methods among others. I am also involved in interdisciplinary research in Social Media and Data Analytics with an ongoing project on the use of Social Media in Business to Business communication.
I have published my research in numerous international research outlets including high quality ABDC ranked A/A* journals. I have recently (Feb, 2017) published my first book, "R in Finance & Economics: A Beginners Guide" which focusses on quantitative research methods in Finance/Econometrics using R.
I have over eight years' experience in quantitative finance research including econometrics modelling using statistical software. I am a big believer in open source software and have been using R for statistical computing including quantitative research methods for several years.

I have lectured at Edith Cowan University, Macquarie University, University of Technology, Dresden, Germany and have also worked as contract consultant for CingleVue International Pty Ltd on Data Analytics projects.

Employment

Senior Lecturer
Senior Lecturer
Department of Applied Finance
Macquarie University
9 Oct 2017 → present

Centre for Corporate Sustainability and Environmental Finance
Macquarie University
North Ryde NSW , Australia
1 Jan 2018 → present

Adjunct Senior Lecturer
Edith Cowan University
Australia
1 Jan 2017 → present

Research Interests

Quantitative Methods in Finance & Economics
Financial Risk Modelling
Time Series Econometrics
Multivariate Statistics
Social Media & Data Analytics

Grants

Singh, A. K. (2018) AUD 45,881. Using a Data-Driven Statistical Modelling and Analysis Approach to Model Individual Learning Progress. Partner-funded (Industry Collaboration) Grant with CingleVue International Pty Ltd.

Singh, A. K., & Linnenluecke, M (2018) AUD 72,747. Finance Decision Lab (FDL) as an innovative learning & teaching hub. Learning & Teaching Strategic Priority Grants scheme, Macquarie University.

Singh, A. K. (2016-2017) AUD 2,500. Modelling Price Dependence in Energy Markets using Multivariate Vine Copulas. Edith Cowan University School of Business & Law Strategic Research Grant.

Singh, A. K. (2015-2016) AUD 7,000. Multivariate Methods and Risk Modelling in Finance. Edith Cowan University Capability Enhancement Scheme.

Singh, A. K. (2013-2014) AUD 5,000. Modelling Multivariate Dependence between Realized Volatilities Using Vine Copula Methods: Edith Cowan University Early Career Research Grant.

McAleer, M., Allen, D. E., & Singh, A. K. (2013) EURO 10,000. Machine Learning, Sentiment Indices and Stock Market Prices: Quantitative Management Initiative, France. http://www.qminitiative.org/completed-projects.html

Research output

Conducting systematic literature reviews and bibliometric analyses
Linnenluecke, M., Marrone, M. & Singh, A., 3 Oct 2019, In : Australian Journal of Management.

Currency spillover effects between the US dollar and some major currencies and exchange rate forecasts based on neural nets
Allen, D. E., Kalev, P., Peiris, S. & Singh, A. K., Jul 2019, *Handbook of global financial markets: transformations, dependence, and risk spillovers.* Boubake, S. & Nguyen, D. K. (eds.). Singapore: World Scientific Publishing, p. 199-220 22 p.

Daily market news sentiment and stock prices
Allen, D. E., McAleer, M. & Singh, A. K., 27 Jun 2019, In : Applied Economics. 51, 30, p. 3212-3235 24 p.

The power of crowds: Grand challenges in the Asia-Pacific region
Cai, C. W., Gippel, J., Zhu, Y. & Singh, A. K., 2019, (Accepted/In press) In : Australian Journal of Management. 44, 4, p. 551-570 20 p.

Non-parametric multiple change point analysis of the global financial crisis
Allen, D. E., McAleer, M., Powell, R. J. & Singh, A. K., Jun 2018, In : Annals of Financial Economics. 13, 2, p. 1-23 23 p., 1850008.

A cointegration analysis of agricultural, energy and bio-fuel spot, and futures prices
Allen, D. E., Chang, C., McAleer, M. & Singh, A. K., 2018, In : Applied Economics. 50, 7, p. 804-823 20 p.

A dataset on tail risk of commodities markets
Powell, R. J., Vo, D. H., Pham, T. N. & Singh, A. K., 1 Dec 2017, In : Data in Brief. 15, p. 58-62 5 p.

The long and short of commodity tails and their relationship to Asian equity markets
Powell, R. J., Vo, D. H., Pham, T. N. & Singh, A. K., Oct 2017, In : Journal of Asian Economics. 52, p. 32-44 13 p.

Risk measurement and risk modelling using applications of Vine copulas
Allen, D. E., McAleer, M. & Singh, A. K., 29 Sep 2017, In : Sustainability (Switzerland). 9, 10, 34 p., 1762.

Volatility spillover and multivariate volatility impulse response analysis of GFC news events
Allen;, D. E., McAleer;, M., Powell;, R. & Singh;, A. K., 15 Jul 2017, In : Applied Economics. 49, 33, p. 3246-3262 17 p.

An entropy-based analysis of the relationship between the DOW JONES Index and the TRNA Sentiment series
Allen, D. E., McAleer, M. & Singh, A. K., 7 Feb 2017, In : Applied Economics. 49, 7, p. 677-692 16 p.

R in finance and economics: a beginner's guide
Singh, A. K. & Allen, D. E., Feb 2017, Singapore ; Hackensack, NJ: World Scientific Publishing. 264 p.

Volatility spillovers from Australia's major trading partners across the GFC
Allen, D. E., McAleer, M., Powell, R. J. & Singh, A. K., 1 Jan 2017, In : International Review of Economics and Finance. 47 , p. 159-175 17 p.

Tail dependence analysis of stock markets using extreme value theory
Singh, A. K., Allen, D. E. & Powell, R. J., 2017, In : Applied Economics. 49, 45, p. 4588-4599 12 p.

Down-side risk metrics as portfolio diversification strategies across the Global Financial Crisis
Allen, D. E., McAleer, M., Powell, R. J. & Singh, A., 21 Jun 2016, In : Journal of risk and financial management. 9, 2, 18 p. , 6.

Nonlinear time series and neural-network models of exchange rates between the US dollar and major currencies
Allen, D. E., McAleer, M., Peiris, S. & Singh, A., 16 Mar 2016, In : Risks. 4, 1, 14 p., 7.

Take it to the limit: Innovative CVaR applications to extreme credit risk measurement
Allen, D. E., Powell, R. J. & Singh, A. K., 1 Mar 2016, In : European Journal of Operational Research. 249, 2, p. 465-475 11 p.

A capital adequacy buffer model
Allen, D. E., McAleer, M., Powell, R. J. & Singh, A. K., 11 Feb 2016, In : Applied Economics Letters. 23, 3, p. 175-179 5 p.

The role of Twitter in B2B knowledge exchange and innovation
Cripps, H., Mejtoft, T. & Singh, A. K., 2016, *Research papers on knowledge, innovation and enterprise.* Ogunleye, J. (ed.). International Conference on Knowledge, Innovation & Enterprise, Vol. 4. p. 27-45 19 p.

A critique of credit risk models with evidence from mid-cap firms
Allen, D. E., Powell, R. J. & Singh, A. K., 2015, *Quantitative financial risk management: theory and practice.* Zopounidis, C. & Galariotis, E. (eds.). Hoboken, New Jersey: Wiley-Blackwell, Wiley, p. 296-311 16 p.

Interest rate risk of Australian REITS: A panel analysis
Yong, J. & Singh, A., 2015, In : Pacific Rim Property Research Journal. 21, 1, p. 77-88 12 p.

Machine news and volatility: The Dow Jones Industrial Average and the TRNA real-time high-frequency sentiment series
Allen, D. E., McAleer, M. J. & Singh, A. K., 2015, *The handbook of high frequency trading.* Gregoriou, G. N. (ed.). London: Elsevier, p. 327-344 18 p.

Risk management and regulation
Allen, D. E., Powell, R. J. & Singh, A. K., 2015, *Investment risk management.* Baker, H. K. & Greg, F. (eds.). New York, NY: Oxford University Press, p. 324-345 22 p.

Nonparametric multiple change-point analysis of the responses of Asian markets to the Global Financial Crisis
Allen, D. E., Kalev, P. S., McAleer, M. J. & Singh, A. K., 2014, *Handbook of Asian finance: REITs, trading, and fund performance.* Chuen, D. L. K. & Gregoriou, G. N. (eds.). San Diego, CA: Elsevier, Vol. 2. p. 267-284 18 p.

Financial dependence analysis: applications of vine copulas
Allen, D. E., Ashr, M. A., Mcaleer, M., Powell, R. J. & Singh, A. K., Nov 2013, In : Statistica Neerlandica. 67, 4, p. 403-435 33 p.

Extreme market risk and extreme value theory
Singh, A. K., Allen, D. E. & Robert, P. J., Aug 2013, In : Mathematics and Computers in Simulation. 94, p. 310-328 19 p.

Extreme equities risk in emerging markets: evidence from Australia
Allen, D. E., Kramadibrata, A. R., Powell, R. J. & Singh, A. K., Mar 2013, In : Global Review of Accounting and Finance. 4 , 1, p. 75 – 84 10 p.

Default risk in the European automotive industry
Allen, D. E., Kramadibrata, A. R., Powell, R. J. & Singh, A., Jan 2013, In : International review of business research papers. 9, 1, p. 22-37 16 p.

Analysing the return distributions of Australian stocks: the CAPM, factor models and quantile regressions
Allen, D. E., Singh, A. K. & Powell, R., 2013, In : Global Business and Economics Review. 15, 1, p. 88-109 22 p.

A Panel-based quantile regression analysis of funds of hedge funds
Allen, D. E., Kramadibrata, A., Powell, R. J. & Singh, A. K., 2013, *Reconsidering funds of hedge funds: the financial crisis and best practices in UCITS, tail risk, performance, and due diligence.* Gregoriou, G. N. (ed.). Oxford: Elsevier, p. 261-272 12 p.

Asset selection using a factor model and data envelopment analysis– A quantile regression approach
Allen, D. E., Singh, A. K. & Powell, R. J., 2013, *Rethinking valuation and pricing models: lessons learned from the crisis and future challenges.* Wehn, C., Hoppe, C. & Gregoriou, G. N. (eds.). Oxford: Elsevier, p. 443–455 13 p.

EVT and tail-risk modelling: Evidence from market indices and volatility series
Allen, D. E., Singh, A. K. & Powell, R. J., 2013, In : The North American Journal of Economics and Finance: a journal of financial economics studies. 26, p. 355-369 15 p.

Modelling tail credit risk using transition matrices
Allen, D. E., Kramadibrata, A. R., Powell, R. J. & Singh, A. K., 2013, In : Mathematics and Computers in Simulation. 93, p. 67-75 9 p.

South African regulatory reforms of funds of hedge funds
Allen, D. E., Kramadibrata, A., Powell, R. J. & Singh, A. K., 2013, *Reconsidering funds of hedge funds: the financial crisis and best practices in UCITS, tail risk, performance, and due diligence.* Gregoriou, G. N. (ed.). Oxford: Elsevier, p. 525-536 12 p.

Understanding the regulation impact: US funds of hedge funds after the crisis
Allen, D. E., Kramadibrata, A., Powell, R. J. & Singh, A. K., 2013, *Reconsidering funds of hedge funds: the financial crisis and best practices in UCITS, tail risk, performance, and due diligence.* Gregoriou, G. N. (ed.). Oxford: Elsevier, p. 503-514 12 p.

Thumbs up to parametric measures of relative VaR and CVaR in Indonesian sectors
Allen, D. E., Boffey, R. R., Kramadibrata, A., Powell, R. & Singh, A., Dec 2012, In : International Journal of Business Studies. 20, 1, p. 27-42 16 p.

Identifying European industries with extreme default risk: application of CVaR techniques to transition matrices
Allen, D. E., Kramadibrata, A. R., Powell, R. J. & Singh, A. K., Nov 2012, In : World review of business research. 2, 6, p. 46-58 13 p.

A Gourmet's delight: CAViaR and the Australian stock market
Allen, D. E., Singh, A. K. & Powell, R., Oct 2012, In : Applied Economics Letters. 19, 15, p. 1493-1498 6 p.

Beyond reasonable doubt: multiple tail risk measures applied to European industries
Allen, D. E., Powell, R. J. & Singh, A. K., May 2012, In : Applied Economics Letters. 19, 7, p. 671-676 6 p.

Conditional value at risk applications to the global mining industry
Allen, D. E., Kramadibrata, A. R., Powell, R. J. & Singh, A. K., 2012, In : Journal of business and policy research. 7, 3, p. 11-23 13 p.

Machine learning and short positions in stock trading strategies
Allen, D. E., Powell, R. J. & Singh, A. K., 2012, *Handbook of short selling.* Gregoriou, G. N. (ed.). 1st ed. Waltham: Elsevier, p. 467-478 12 p.

Short selling consistency in South Africa
Allen, D. E., Powell, R. J. & Singh, A. K., 2012, *Handbook of short selling.* Gregoriou, G. N. (ed.). 1st ed. Waltham: Elsevier, p. 381-386 6 p.

Short selling stock indices on signals from implied volatility index changes: evidence from quantile regression-based techniques
Allen, D. E., Singh, A. K., Powell, R. J. & Kramadibrata, A., 2012, *Handbook of short selling.* Gregoriou, G. N. (ed.). Waltham: Elsevier, p. 479-492 14 p.

Evaluating extremal dependence in stock markets using Extreme Value Theory
Singh, A. K., Allen, D. E. & Powell, R. J., 1 Dec 2011, *MODSIM 2011: 19th International Congress on Modelling and Simulation: proceedings.* Chan, F., Marinova, D. & Anderssen, R. S. (eds.). Canberra, p. 1485-1491 7 p.

Quantile regression as a tool for portfolio investment decisions during times of financial distress
Allen, D. E., Powell, R. J. & Singh, A. K., Jun 2011, In : Annals of Financial Economics. 6, 1, 19 p., 1150003.

Are credit ratings a good measure of capital adequacy?
Allen, D. E., Kramadibrata, A. R., Powell, R. J. & Singh, A. K., 2011, *MODSIM 2011: 19th International Congress on Modelling and Simulation: proceedings.* Chan, F., Marinova, D. & Anderssen, R. S. (eds.). Canberra, p. 1457-1463 7 p.

A risk and forecasting analysis of west texas intermediate prices
Allen, D. E. & Singh, A. K., 2011, *Financial econometrics modeling: market microstructure, factor models and financial risk measures.* Gregoriou, G. N. & Pascalau, R. (eds.). Hampshire, UK: Palgrave Macmillan, p. 235-254 20 p.

Asset pricing, the Fama-French factor model and the implications of quantile-regression analysis
Allen, D. E., Singh, A. K. & Powell, R., 2011, *Financial econometrics modeling: market microstructure, factor models and financial risk measures.* Gregoriou, G. N. & Pascalau, R. (eds.). Hampshire, UK: Palgrave Macmillan, p. 176-193 18 p.

Innovative transition matrix techniques for measuring extreme risk: An Australian and U.S. comparison
Allen, D. E., Kramadibrata, A. R., Powell, R. J. & Singh, A. K., 2011, *MODSIM 2011: 19th International Congress on Modelling and Simulation: proceedings.* Chan, F., Marinova, D. & Anderssen, R. S. (eds.). Canberra, p. 1451-1456 6 p.

Japanese banks: tail risk and capital buffers
Allen, D. E., Kramadibrata, A. R., Powell, R. J. & Singh, A., 2011, In : International Journal of Business Studies. 19, 4, p. 7-27 21 p.

Value at Risk estimation using Extreme Value Theory
Singh, A. K., Allen, D. E. & Powell, R. J., 2011, *MODSIM 2011: 19th International Congress on Modelling and Simulation: proceedings.* Chan, F., Marinova, D. & Anderssen, R. S. (eds.). Canberra, p. 1478-1484 7 p.

Portfolio evaluation using OWA-heuristic algorithm and data envelopment analysis
Singh, A. K., Sahu, R. & Bharadwaj, S., 5 Jan 2010, In : Journal of Risk Finance. 11, 1, p. 75-88 14 p.

Quantile regression: its application in investment analysis
Allen, D. E., Gerrans, P., Singh, A. K. & Powell, R., 2009, In : JASSA : the FINSIA journal of applied finance. 4, p. 7-12 6 p.