

## T.V. Ramanathan

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### Educational Qualifications

- Ph. D.** (Statistics), University of Pune, Pune, India, 1993
- M. Phil.** (Statistics), University of Kerala, Kerala, India, 1989
- M. Sc.**, (Statistics), University of Kerala, Kerala, India, 1986
- B. Sc.**, (Statistics, Mathematics, Mathematical Economics)  
University of Calicut, Kerala, India, 1984

### Awards & Recognition

1. **Erasmus Mundus Fellowship from European Union** to visit Katholieke Universiteit, Leuven Belgium for Research Collaboration for 3 months, April-July, 2009.
2. Winner of the Award, **Young Statisticians from Developing Countries (Jan-Tinbergen)** by the **International Statistical Institute**, Netherlands, Florence, Italy, 1993.
3. Awarded **Post-Doctoral Fellowship by the National Board for Higher Mathematics (NBHM)**, under **Department of Atomic Energy (DAE)**, India, 1993.
4. Qualified in the **National Educational Test (NET)** for Junior Research Fellowship conducted jointly by **University Grants Commission (UGC)** and **Council of Scientific and Industrial Research (CSIR)**, India, in 1989.

### Grants Received

1. Duration Modeling & Inference in Finance, Project from **Science Engineering Research Board, Department of Science & Technology**, Government of India, (2014-2017).
2. Modeling and Analysis of Financial Time Series, From **Council of Scientific & Industrial Research (CSIR)**, Government of India (2009-2011)
3. Modeling of H1N1 Virus Spread in Pune, from **National Institute of Virology**, Pune (January to June 2010) (Dr. Mohan Kale, Co-investigator) (Without grant, but an MOU)
4. Data Analysis Related To The Study On Management Of Primary Education In Botswana, from **Ministry of Education, Government of Botswana**, (2001) (Jointly with Dr. C. T. Tharakan)

5. Efficiency Analysis of Hospitals in Botswana in the Treatment of HIV/AIDS Diseases (2002-2005) (from **University of Botswana**).

**Areas of Special Interest**

Inference in stochastic processes, Finance & time series analysis, Nonparametric inference, Econometrics, Big data analytics

**Research Guidance**

**M. Sc. Projects:** 2 to 3 projects every year, since 2006.

**M. Phil.:**

- Deepak Jadhav (2009), "**Statistics of Financial Market Risk Measures**" – Awarded
- Neelabh Rohan (2010), "**Conditional Heteroskedastic Time Series Models with Asymmetry and Structural Breaks**" – Awarded
- Maryam Tayefi Nasrabadi (2010), "**A Review on FIGARCH and Related Time Series Models**" – Awarded

**Ph.D.:**

- Chanchala Ghadge – '**Contributions to the Inference on Stochastic Frontier Models**' – Awarded (2013)
- Neelabh Rohan – '**Contributions to the Statistical Inference for Volatility Models**' – Awarded (2013)
- Inderdeep Kaur – '**Contributions to Statistical Analysis of Some Higher Order Markov Models and their Extensions**' – (Awarded) (2015)

**Teaching & Research Experience**

1. Department of Statistics, **University of Pune**, Pune, India (Since 2005)
2. Department of Statistics, **University of Botswana**, Gaborone, Botswana (2000 - 2005)
3. Department of Statistical Analysis and Computer Services, **Reserve Bank of India**, Mumbai, India (1996-2000)
4. Department of Statistics, **University of Pune**, Pune, India (1988-1996 except during 1992-1994)
5. Department of Mathematical Sciences, **North Maharashtra University**, Jalgaon, India (1992-1994)

## Research Publications

### A. Research Publications in Peer Reviewed Journals:

1. **T. V. Ramanathan**, Neelabh Rohan and Bovas Abraham (2015). A stochastic frontier regression model with dynamic frontiers. *Communications in Statistics – Simulation and Computations* – To appear.
2. Neelabh Rohan and **T. V. Ramanathan** (2013). Geometric ergodicity of asymmetric volatility models with stochastic parameters, *Electronic Journal of Probability*, **18**, 90, 1–12.
3. Jadhav, D., **T. V. Ramanathan** & U. V. Naik-Nimbalkar (2013). Modified expected shortfall: a new robust coherent risk measure, *Journal of Risk*, 16(1), 69–83
4. Akanksha S. Kashikar, Neelabh Rohan & **T.V. Ramanathan** (2013). Integer autoregressive models with structural breaks, *Journal of Applied Statistics*, Vol. 40, No. 12, 2653–2669
5. Neelabh Rohan and **T. V. Ramanathan** (2013). Nonparametric estimation in time-varying GARCH models, *Journal of Nonparametric Statistics*, 25:1, 33-52
6. Tom Thomas, Pradeep Narayanan, Tisha Wheeler, Usha Kiran, Joseph M. J, Rick Davies and **T. V. Ramanathan** (2012). Design of a Community Ownership and Preparedness Index: using data to inform the capacity development of community-based groups. *Journal of Epidemiology and Community Health*, Vol. 66, 2, 26-34.
7. Pradeep Narayanan, Moulasha, K., James Baer, Bharadwaj Soumia, Thomas Tom and **T. V. Ramanathan** (2012). Monitoring community mobilization and organizational capacity among high-risk groups in a large-scale HIV prevention programme in India: selected findings using a Community Ownership and Preparedness Index. *Jour. of Epidemiology and Community Health*. Vol. 66, 2, 34-41.
8. Maryam Tayefi and **T. V. Ramanathan** (2012). An overview of FIGARCH and related time series models, *Austrian Journal of Statistics*, 41:3, 175-196.
9. Neelabh Rohan and **T. V. Ramanathan** (2012). Asymmetric volatility models with structural breaks. *Communications in Statistics- Simulations and Computation*, 41:9, 1519-1543.
10. Inderdeep Kaur, **T. V. Ramanathan** and U. V. Naik-Nimbalkar (2012). Parameter estimation of a process driven by fractional Brownian motion: An estimating function approach, December, *Inter Stat*.
11. M. B. Rajarshi, **T. V. Ramanathan** and Chanchala Ghadge (2011). A class of rank tests for testing the constancy of regression coefficients against random walk alternatives, *Operations Research and Decisions*, 21:3-4, 35-55.
12. Neelabh Rohan and **T. V. Ramanathan** (2011). Order selection in ARMA models with focused information criteria. *Australian and New Zealand Journal of Statistics*, Vol. 53, 217-231
13. Ghadge, C. and **T V. Ramanathan** (2011). Rank tests for testing the constancy of parameters in a random coefficient stochastic frontier regression model, *Communications in Statistics – Simulation and Computation*, Vol. 40, 1-14
14. **T. V. Ramanathan** and C. Ghadge (2010). Tests for randomness of the technology parameter in a stochastic frontier regression model, *Statistical Methods and Applications*, Vol. No.19, 319-331
15. Deepak Jadhav and **T. V. Ramanathan** (2009). Parametric and Nonparametric estimation of Value-at-Risk, *Journal of Risk Model Validation*. Vol. 3, No.1, 51-71
16. Deepak Jadhav, **T. V. Ramanathan** and U. V. Naik-Nimbalkar (2009). Expected Shortfall: A Coherent Alternative to Value-at-Risk, *Journal of Emerging Market Finance*.8:2, 87-107.
17. M. I. Alheety and **T. V. Ramanathan** (2009). Confidence Interval for shrinkage parameters in ridge regression, *Communications in Statistics – Theory and Methods*, Vol.38, No.19,3489-3497
18. M. I. Alheety, **T. V. Ramanathan** and S. D. Gore (2009). On the distribution of shrinkage parameters of Liu-Type Estimators. *Brazilian Journal of Probability and Statistics*, Vol. 23, No.1, 57-67
19. Feras Sh. M. Batah, **T. V. Ramanathan** and Sharad D. Gore (2008). The efficiency of modified jackknife and ridge type regression estimators: A comparison, *Surveys in Mathematics and Its Applications*, Vol. 3, 111-122
20. Suresh Chandra, K. and **T. V. Ramanathan** (2004). Modeling inefficiencies in a reliability system using stochastic frontier regression, *IEEE Transactions on Reliability*, Vol.53, No.2, 250-254.

21. **Ramanathan, T. V.**, W. M. Thupeng and W. B. Molefe and K. Suresh Chandra (2004). Recent trends in the technical efficiencies of health districts in Botswana in the treatment of HIV related diseases. *Botswana Journal of Economics*, Vol 1, No.1, 66-81.
22. **Ramanathan, T. V.**, A. D. Dharmadhikari and B. Abraham (2003). Non-Parametric capability indices, *Economic Quality Control*, 18, 031-041.
23. **Ramanathan, T. V.**, K. Suresh Chandra and W. M. Thupeng (2003). A comparison of the technical efficiencies of health districts and hospitals in Botswana. *Development Southern Africa*, Vol. 20, No. 2, 307-320.
24. **Ramanathan, T. V.** (2003). Cointegration and Structural Break: An Empirical Investigation of Indian Economy, *Empirical Economic Letters*. Vol 2., No. 2, 75-86.
25. **Ramanathan, T. V.** and B. R. Bhat (2003). Estimation in a Gompertzian stochastic model, in *Statistical Methods and Practice – Recent Advances*. Editors: N. Balakrishnan, N. Kannan and M. R. Srinivasan, Narosa Publishing House, New Delhi, 71-79
26. Das, A. and **T. V. Ramanathan** (2000). Bootstrap standard errors and confidence intervals for technical efficiency estimates of commercial banks in India. *International Journal for Development Banking*, Vol.18, No.2, pp.27-38.
27. Rajarshi, M. B. and **T. V. Ramanathan** (2000). Testing constancy of a parameter against random walk alternatives of a Markov sequence *Journal of Indian Statistical Association*, Vol. 38, PP. 23-44.
28. **Ramanathan, T. V.** and P. C. Sarker (1999). Identification of structural break in income, money and banking indicators and its application in money demand functions. *Prajnan, Journal of Management & Social Science*, Vol. XXVII, No.4, pp. 405-431
29. Hanagal, D. and **T. V. Ramanathan** (1998). Tests for bivariate exponentiality against BIFRA alternatives based on censored samples. *Communications in Statistics - Theory and Methods*, 27(8), P. 1947-1960
30. Suresh, R. P. and **T. V. Ramanathan** (1997). Acceptance sampling plans by variables for a class of symmetric distributions. *Communications in Statistics - Simulation and Computation*, Vol.26, No. 4. 1379-1391.
31. Kale, M. and **T. V. Ramanathan** (1997). A test for the randomness of the environments in a branching process. *Statistical Papers*, Vol. 38, No.4, P.409-421
32. **Ramanathan, T. V.** and M. B. Rajarshi (1997). Testing homogeneity over time of a parameter of a Markov sequence. *Communications in Statistics - Theory and Methods*, Vol. 26, No.2, 317-330
33. Adke, S. R. and **T. V. Ramanathan** (1997). On optimal prediction for stochastic processes. *Journal of Statistical Planning and Inference*, Vol.21, p.1-7
34. Adke, S. R. and **T. V. Ramanathan** (1996). A note on unbiased prediction. *Journal of Indian Society of Probability and Statistics*, Vol. 3-4, p. 27-40
35. **Ramanathan, T. V.** and M. B. Rajarshi (1994). Rank tests for testing the randomness of autoregressive coefficients. *Statistics and Probability Letters*, Vol. 21, No. 5. 115-120.
36. **Ramanathan, T. V.** (1993). Testing the constancy of the parameter of a Markov sequence. Invited paper in *Proceedings of the 49-th Session of the International Statistical Institute, Firenze, Italy*, p.429-444.
37. **Ramanathan, T. V.** and M. B. Rajarshi (1992). Rank tests for testing the randomness of a regression coefficient in linear regression model. *Metrika*, 1992, 39, p.113-124.
38. **Ramanathan, T. V.** and M. B. Rajarshi (1992). Optimal estimation in random coefficient regression models. *Annals of the Institute of Statistical Mathematics*, 44, p.213-227.
39. **Ramanathan, T. V.** and M. B. Rajarshi (1991). Stationary distribution of random coefficient autoregressive models: Some approximations and numerical evaluations. *Proceedings of the National seminar on Distribution Theory held at Cochin*, p.37-48.

## **B. Books Published:**

1. **Ramanathan, T. V.** and K. Sediakgotla. (2003). *Lecture Notes on Introductory Business Statistics*, Bay Publishers, Gaborone, Botswana.
2. Ama, N. O., L. Mokgathe, **T. V. Ramanathan** and K. Sediakgotla (2008), *Introduction to Statistics*, Zebra Publishing (Pty) Ltd., Windhoek, Namibia

## **C. Technical/Research Reports:**

1. Chanchala Ghadge and **T. V. Ramanathan** (2012). Technical efficiency with inverse Gaussian and log normal frontiers. Technical Report 3/2012, Department of Statistics, University of Pune, Pune.
2. **T. V. Ramanathan** (2011). *Modeling and Analysis of Financial Time Series*, Research Report submitted to the Council of Scientific Industrial Research, New Delhi. India.
3. Neelabh Rohan and **T. V. Ramanathan** (2011). A study on the focused information criterion for order selection in ARMA models. Technical Report 1/2011, Department of Statistics, University of Pune, Pune.
4. Inderdeep Kaur, T. V. Ramanathan and U. V. Naik-Nimbalkar (2011). Parameter estimation of a process driven by fractional Brownian motion: An estimating function approach. Technical Report 2/2011, Department of Statistics, University of Pune, Pune.
5. Neelabh Rohan and **T. V. Ramanathan** (2011). Non-parametric estimation of a time varying GARCH model. Technical Report 3/2011, Department of Statistics, University of Pune, Pune.
6. **Mohan Kale** and **T. V. Ramanathan** (2010). *Statistical Modeling and Analysis of Influenza Data*, Project Report, Project carried out under the MOU with the National Institute of Virology, Pune (January-June 2010), Department of Statistics, University of Pune, Pune
7. **Ramanathan, T. V., W. M. Thupeng, W. B. Molefe and E. Ncube** (2005), *Efficiency Analysis of Hospitals in Botswana in the Treatment of HIV/AIDS Related Diseases*, Research Report R 118, University of Botswana, Gaborone.