

Professor Josip Arnerić, PhD

Department of Statistics, Head of the R Club

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Career overview

Josip Arnerić graduated in 2003 at University of Split, Faculty of Economics and was employed in 2004 as a research assistant at Department of Quantitative Methods at the same Faculty. In 2007, he successfully defended his master's thesis within MSc program Operational Research. After obtaining his PhD in 2010 he continued his academic career at Faculty of Economics and Business, University of Zagreb. Currently, Josip Arnerić is a Full Professor at Department of Statistics. He serves as a Section editor of CRRR journal, Co-editor-in-Chief of Croatian Review of Economic, Business and Social Statistics and editorial board member of Proceedings of Rijeka Faculty of Economics: Journal of Economics and Business. He is also a head of the R Club at Croatian Statistical Association. He has attended numerous international conferences and workshops covering quantitative finance, advances in time-series analysis, machine learning and neural networks, data envelopment analysis, spatial statistics, spatial econometrics and structural equation modelling. He has reviewed more than 100 articles for prestigious publications. He pursued further professional development abroad in the field of quantitative methods in economics at Brandenburg University of Technology, Cottbus-Senftenberg, Germany, and CASS Business School, London, UK. So far, he has successfully supervised three PhD candidates. At his home Faculty he teaches: Statistics, Business statistics, Econometrics, Financial econometrics, Statistical methods for economic analysis, Stochastic processes and Methods for time-series analysis and forecasting.

Research areas

His fields of interest are financial econometrics, time-series analysis, stochastic processes and neural networks. Related to these fields of interest he was research associate on projects funded by the Ministry of Science and Education: Mathematical models in financial management (0055011) and Mathematical models in the analysis Croatian financial market development (055-000000-1435), as well as the project manager of research funded by the Croatian Science Foundation: Volatility measurement, modelling, and forecasting (UIP-2013-11-5199) and project manager of research funded by the University of Zagreb: Analysis of financial market volatility by using high-frequency data (2019-05).

External activity

He is also active member of related societies such as Croatian Operational Research Society, American Statistical Association and Croatian Biometric Society. He was a program committee and/or organizing committee member of International Statistical Conferences in Croatia (ISCCRO), International Conferences on Operational Research (KOI) and International Symposium's on Operations Research (SOR). His collaboration with other universities in teaching statistics, probability, multivariate statistics, econometrics and time-series analysis at graduate or postgraduate level (Faculty of Electrical Engineering, Mechanical Engineering, and Naval Architecture in Split, Faculty of Economics in Split, Rijeka and Mostar as well as Shanghai University of International Business and Economics in China and Ruhr University Bochum in Germany) makes him appreciated. For three years, he was a member of the panel for evaluating project proposals of the Croatian Science Foundation. He has also collaborated with Croatian Bureau of Statistics, Republic of Croatia, in terms of involvement in practices and economy.

Notable Publications in period 2019-2023

- Čuljak, M., Arnerić, J., Žigman, A. (2022). *Is jump robust two times scaled estimator superior among realized volatility competitors?* *Mathematics*, 10(12):2124. doi: 10.3390/math10122124
- Arnerić, J., Šitum, A. (2022). *PVAR model with collapsed instruments in the real exchange rates misalignment's analysis.* *Croatian Operational Research Review*, 13(2):203-215. doi: 10.17535/crorr.2022.0015
- Arnerić, J., Čuljak, M. (2021). *Predictive accuracy of option pricing models considering high-frequency data.* *Econviews*, 34(1):131-144. doi: 10.51680/ev.34.1.10
- Šestanović, T., Arnerić, J. (2021). *Can recurrent neural networks predict inflation in euro zone as good as professional forecasters?* *Mathematics*, 9(19):2486. doi: 10.3390/math9192486
- Arnerić, J. (2021). *Multiple STL decomposition in discovering a multi- seasonality of intraday trading volume.* *Croatian Operational Research Review*, 12(1):61-74. doi: 10.17535/crorr.2021.0006
- Arnerić, J. (2020). *Realized density estimation using intraday prices.* *Croatian Review of Economic, Business and Social Statistics*, 6(1):1-9. doi: 10.2478/crebss-2020-0001
- Šestanović, T., Arnerić, J. (2020). *Neural network structure identification in inflation forecasting.* *Journal of Forecasting*, 39(6):935-952. doi: 10.1002/for.2698
- Arnerić, J., Matković, M., Sorić, M. (2019). *Comparison of range-based volatility estimators against integrated volatility in European emerging markets.* *Finance Research Letters*, 28:118-124. doi: 10.1016/j.frl.2018.04.013
- Arnerić, J., Matković, M. (2019). *Challenges of integrated variance estimation in emerging stock markets.* *Proceedings of Rijeka Faculty of Economics: Journal of Economics and Business*, 37(2):713-739. doi: 10.18045/zbefri.2019.2.713