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Academic Appointments

Associate Professor, Dipartimento di Scienze Economiche, Aziendali, Matematiche e Statistiche, University of Trieste, (2017-)

Senior Lecturer, Faculty of Actuarial Science & Insurance, Cass Business School (2012-).

Assistant Professor, Faculty of Economics, University of Trieste (2001-2011).

Education

Degrees

Ph.D. Mathematics Applied to Decisions in Economics and Finance, University of Trieste (2003).

M.Sc. Probability and Applications, University Paris VI 'Pierre et Marie Curie' (1999).

B.Sc. Statistics and Actuarial Sciences, University of Trieste (1996).

Other Courses & Schools

Risk Measures, Stochastic Orders and Comonotonicity, University of Ljubljana (2005).

Spring School in Finance, Università di Bologna (2004, 2005).

Stochastic Control Applied to Actuarial Problems, University of Aegean, Samos (2004).

Credit Risk Modelling with Affine Processes, Scuola Normale Superiore di Pisa, Cattedra Galileiana (2002).

School on the Mathematics of Economics, ICTP, Trieste (2000).

Summer School of Mathematical Economics, Università di Napoli 'Federico II' (1999).

Scuola Matematica Interuniversitaria, Cortona (1998).

Scuola Matematica Interuniversitaria, Perugia (1997).

Research

Refereed Publications

Reverse sensitivity testing: What does it take to break the model? (with S. Pesenti and A. Tsanakas), European Journal of Operational Research, 274(2), 654-670 (2019)

Longevity Impact on Life Insurers in Low Interest Rate Environment (with A. R. Bacinello and A. Chen), The European Actuary, 18, 16-18, (2018)

Euler allocations in the presence of non-linear reinsurance: comment on Major (with S. Pesenti and A. Tsanakas), Insurance: Mathematics and Economics, 83, 29-31 (2018)

The impact of longevity and investment risk on a portfolio of life insurance liabilities (with A.R. Bacinello and A. Chen), European Actuarial Journal, 8(2), 257–290 (2018)

Sex-specific mortality forecasting for UK countries: a coherent approach (with R. Chen), European Actuarial Journal, 8(1), 69-95 (2018).

StMoMo: An R Package for Stochastic Mortality Modelling (with A. Villegas and V. Kaishev), Journal of Statistical Software, 84(3), 1-38 (2018).

A comparative study of two-population models for the assessment of basis risk in longevity hedges (with A. Villegas, S. Haberman and V. Kaishev), *Astin Bulletin*, 47(3), 631-679 (2017).

Robustness regions for measures of risk aggregation (with S. Pesenti, A. Tsanakas), *Dependence Modelling*, 4, 348-367 (2016).

Sensitivity analysis using risk measures (with A. Tsanakas), *Risk Analysis, An International Journal*, 36(1), 30-48 (2016).

The Valuation of GMWB Variable Annuities under alternative fund distributions and policyholder behaviours (with A.R. Bacinello and A. Montealegre). *Scandinavian Actuarial Journal*, 5, 446-465 (2016).

A methodology for assessing basis risk - Abstract of the London Discussion. *British Actuarial Journal*, 20, 461-490 (2015).

Forecasting mortality in subpopulations using Lee–Carter type models: A comparison (with I.L. Danesi and S. Haberman). *Insurance: Mathematics and Economics*, 62, 151-161 (2015).

Longevity Basis Risk - A Methodology for Assessing Basis Risk (with S. Baxter, A. Gaches, S. Gunlaugsson, S. Haberman, V. Kaishev, M. Sison and A. Villegas). Institute and Faculty of Actuaries & Life and Longevity Markets Association (2014).

Variable Annuities: A Unifying Valuation Approach (with A.R. Bacinello, A. Olivieri e E. Pitacco). *Insurance: Mathematics and Economics*, 49, 285-297 (2011).

Regression-Based Algorithms for Life Insurance Contracts with Surrender Guarantees (with A. R. Bacinello and E. Biffis). *Quantitative Finance* 10(9), 1077–1090 (2010).

Pricing Life Insurance Contracts with Early Exercise Features (with A. R. Bacinello and E. Biffis). *Journal of Computational and Applied Mathematics* 233(1), 27–35 (2009).

A Bidimensional Approach to Mortality Risk (with E. Biffis). *Decisions in Economics and Finance* 29(2), 71–94 (2006).

The Fair Value of Guaranteed Annuity Options (with E. Biffis). *Scandinavian Actuarial Journal* 1, 23–41 (2006).

A Notion of Coherent Prevision for Arbitrary Random Quantities (with L. Crisma and P. Gigante). *Journal of The Italian Statistical Society* 6(3), 233–243 (1997).

Book Chapters & Reports

A Comparison between Different Numerical Schemes for the Valuation of Unit-Linked Contracts Embedding a Surrender Option (with A.R. Bacinello and A. Montealegre). In: Corazza M., Pizzi C. (ed.), *Mathematical and Statistical Methods for Actuarial Sciences and Finance*, Springer, p.27-40 (2013).

Variable annuities as life insurance packages: a unifying approach to the valuation of guarantees (with A.R. Bacinello, A. Olivieri and E. Pitacco). In: Michèle Vanmaele, Griselda Deelstra, Ann De Schepper, Jan Dhaene, Wim Schoutens, Steven Vanduffel, David Vyncke (Eds.), *Actuarial and financial mathematics conference. Interplay between Finance and Insurance*, Koninklijke Vlaamse Academie van Belgie voor Wetenschappen en Kunsten, Brussel, pp. 3-15 (2012).

Variable Annuities: Risk Identification and Risk Assessment (with A.R. Bacinello, A. Olivieri and E. Pitacco). *CAREFIN Research Paper* no. 14/2010.

Fair Value of Insurance Liabilities (with E. Biffis). *Encyclopedia of Quantitative Risk Assessment (eds:*

E. Melnick and B. Everitt), John Wiley & Sons (2008).

Working Papers

Structural constraints on multi-population mortality models (with V. D'Amato and A. Villegas).

Cascade Sensitivity Measures (with S. Pesenti, A. Tsanakas).

Interest rates and the demand for non-life insurance (with G. Millo).

Optimal Insurance with Counterparty Default Risk (with E. Biffis).

Monte Carlo Valuation of the Initiation Option in a GLWB Variable Annuity (with A. R. Bacinello)

SWIM: Scenario Weights for Importance Measurement - An **R** package for sensitivity analysis (with S. Pesenti, A. Bettini and Andreas Tsanakas)

On the Optimal Design of Participating Life Insurance Contracts (with A. R. Bacinello and C. Corsato)

Spearman Sensitivity Measures, (with A. Tsanakas A and R. Wang)

Sensitivity analysis with Chi-square divergences (with V. Devi Makam and A. Tsanakas)

Market-Consistent Valuation of Participating Life Insurance Contracts under Longevity Risk: The Case with Heterogeneous Groups of Policyholders (with A. R. Bacinello, A. Chen A. and T. Sehner)

The Monte Carlo Valuation of Future Annuity Values (with A. R. Bacinello and F. Viviano)

Proceedings

Sample Path Properties of Risk Factors and the Pricing of Survival Guarantees (with E. Biffis and G. Fusai). *Proceedings of New Mathematical Methods in Risk Theory – A Workshop in Honour of Hans Bühlmann, Firenze* (2005).

Annuities Under Stochastic Mortality and Interest Rates (with E. Biffis). *Proceedings of the XXVII AMASES Conference, Cagliari* (2003).

An Extension of the Jarrow-Lando-Turnbull Model to Random Recovery Rates. *Proceedings of the VI Italian-Spanish Meeting on Financial Mathematics, Trieste* (2003).

Presentations

Conferences (contributed)

2019: XXIII Congress on Insurance: Mathematics & Economics (Munich); Actuarial Teachers' & Researchers' Conference 2019.

2018: 4th European Actuarial Journal Conference, Leuven.

2017: 41st Annual Meeting of the AMASES, Cagliari.

2016: XX Congress on Insurance: Mathematics & Economics, Atlanta; 9th International Conference of the ERCIM WG on Computational and Methodological Statistics.

2015: XIX Congress on Insurance: Mathematics & Economics, Liverpool; Eleventh International Longevity Risk and Capital Markets Solutions Conference, Lyon.

2014: MAF 2012, Salerno; 8th Conference in Actuarial Science and Finance, Samos; FISC 2014, Flint, Michigan.

2013: XVII Congress on Insurance: Mathematics & Economics, Copenhagen.

2012: MAF 2012 Venice; XVI Congress on Insurance: Mathematics & Economics, Hong Kong

2011: XII Iberian-Italian Congress in Financial and Actuarial. Mathematics, Lisbon; Workshop 'Swap su Tassi di Interesse e su Valute', Università la Sapienza, Roma.

2010: XXXIV Congresso Amases, Macerata; XIV Congress on Insurance: Mathematics & Economics, Toronto; MAF 2010, Ravello.

2009: XIII Congress on Insurance: Mathematics & Economics, Istanbul; PRIN meeting, Torino.

2008: 5th Conference in Actuarial Science and Finance, Samos; MAF 2008, Venezia; Stochastic Methods in Finance, Torino; Cologne Workshop on Actuarial Mathematics, Cologne.

2007: XXXI Congresso AMASES, Lecce; XI Congress on Insurance: Mathematics & Economics, Piraeus; XIV Congresso di Teoria del Rischio, Campobasso; International Actuarial Meeting on Risk Measures and Solvency, Antalya.

2006: New Mathematical Methods in Risk Theory, Firenze; XXIX Congresso AMASES, Palermo.

2005: 3rd Conference in Actuarial Science and Finance, Samos; VII Spanish-Italian Meeting on Financial Mathematics, Cuenca; VIII International Congress on Insurance: Mathematics & Economics, Rome.

2003: VI Italian-Spanish Meeting on Financial Mathematics, Trieste; IV Workshop in Financial Mathematics, Torino.

Invited Seminars and Conferences

2019: Risklab, ETH; Università della Calabria; Mathematics in longevity risk management, King's College; 6th Workshop: Finance and Insurance, Freiburg Institute for Advanced Studies.

2016: Polytechnic University of Valencia; Georgia State University; University of Hamburg; Conference on Actuarial Risks in the Solvency II Era in Bologna.

2015: EM Lyon, Lyon.

2014: Sessional Research Event: Longevity Basis Risk Methodology, Institute and Faculty of Actuaries; Department of Economics, Ca' Foscari, Venice; LUH-Kolloquium 'Versicherungs und Finanzmathematik', Hannover; KUL Economics, Leuven.

2013: Life Conference and Exhibition 2013, Edinburgh.

2012: 25 Entretiens Jacques Cartier - Lyon; ISFA - Lyon (Journée Scientifique en l'Honneur de François Quittard-Pinon); University of Montreal.

2011: Basque Center for Applied Mathematics, Bilbao; Dipartimento di Scienze Statistiche, Università la Sapienza, Roma; Workshop Swap su Tassi di Interesse e su Valute, Roma.

2010: Strumenti Finanziari degli Enti Locali — Il Caso del Friuli Venezia Giulia, Università di Trieste; Department of Actuarial Science and Statistics, Heriot-Watt University.

2009: Institute of Biomedical Informatics, University of Ljubljana.

2008: Department of Quantitative Economics, University of Amsterdam; Faculty of Mathematics and Physics, University of Ljubljana.

2006: DiMaDe, Università di Firenze; Dipartimento di Finanza dell'Impresa e dei Mercati Finanziari, Università di Udine. 2004: Istituto di Metodi Quantitativi, Università Commerciale 'L. Bocconi'.

Teaching

Undergraduate

Financial and Actuarial Mathematics Lab (2017-)

Probability and Statistics (2015-16)

Statistic and Probabilistic Modelling in Insurance (2014-)

Extreme Event Statistics (2012-)

Advanced Contingencies (2012)

Insurance Technique (2010-11)

Financial Economics (2011)

Teaching assistantship: Calculus (2003-11), Mathematical Programming (1997, 2000-2001), Financial Mathematics (2000-2001), Probability (2003-2004), Advanced probability (2003-2004)

Postgraduate

Quantitative Risk Management, Master in Actuarial Science, Cass Business School (2015-)

Financial Risk Management, Master in Actuarial Science, University of Trieste (2005-11, 17-)

Contingencies, Master in Actuarial Sciences, Cass Business School (2012-2016)

Actuarial Mathematics, Master in Financial Mathematics, University of Ljubljana (2011)

Financial Risk Management, Master in Insurance and Risk Management, MIB Trieste (2010-)

Life and non Life Insurance, Executive Master in Insurance and Finance, MIB Trieste (2009)

Financial Mathematics, Master in Statistics, University of Ljubljana (2008-2009)

Overview of Financial Markets and Instruments, International Center of Theoretical Physics, Trieste (2007)

Financial Markets and Financial Institutions, MBA program, ESSEC Business School, Paris (2003)

Other

Honors and Grants

Best Paper Award in "Aspects of long-term savings: uncertainty in low real returns, longevity and inflation", International Congress of Actuaries, Berlin (2018)

Mutua Pelayo Prize, Cuenca (2004).

Study fellowship, Università di Trieste (1998).

Fellowship, Fondazione Franca e Diego de Castro, Torino (1997).

Prize 'Ugo Irneri', Università di Trieste (1997).

Fellowship, Consorzio pro Corso di Laurea in Scienze Statistiche ed Attuariali, Trieste (1997).

Refereeing Activity

Astin Bulletin

Decisions in Economics and Finance

European Actuarial Journal

European Journal of Operational Research

European Journal of Law and Economics

Insurance, Mathematics & Economics

Journal of Economic Dynamics and Control

Journal of Risk and Insurance

Journal of the American Statistical Association

Lifetime Data Analysis

Quantitative Finance

Risks

Scandinavian Actuarial Journal

The Geneva Risk and Insurance Review

Funding

Research project, Università di Trieste (2018-20)

Developing a Framework for Assessing Basis Risk in Longevity Transactions - sponsored by Faculty and Institute of Actuaries and Life and Longevity Markets Association (2003-15)

Italian National research project (2009-12)

CAREFIN research project, Bocconi University (2009-10)

Italian National research project (2006-08)

Research project, Università di Trieste (2006-07)

Italian National research project (2003-05)

Progetto di Ricerca Ex. 60%, Università di Trieste (2000-)

Research project, Regione Friuli-Venezia Giulia (2000-04)

Consulting

Allianz Bank, Value-at-risk for fixed income products
Allianz Bank, asset swaps and structured bonds pricing
Corte dei conti di Trieste, collar swaps valuation

Ph.D. Supervised

F. Viviano (current)
V. Devi Makam (current)
K. Gasimova (current)
S. Pesenti (2018)
I. L. Danesi (2014)
A. Montealegre (2014)
M. Kaucic (2009)

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