

## Montserrat Guillen

### *Curriculum Vitae*

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#### **Address**

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#### **Personal Background**

Birth date: January 25, 1964, female. Citizenship: Spanish, Married, one son.

#### **Summary**

#Years research experience: 30+  
#Citations: 3,296 (WoS), 3,793 (Scopus), 10,399 (ScholarGoogle)  
h index: 33 (Web of Science), 36 (Scopus), 56 (Google, rank #12 and #9 in insurance and actuarial science, 1# woman)

ResearcherID: E-1407-2011 Scopus Author ID: 7103020782

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Only woman in the top rank of Spanish Economists

<https://research.com/scientists-rankings/economics-and-finance/es>

#### **Research interests**

Risk, insurance, actuarial statistics, data science, risk analytics, long-term care insurance, statistical methods for insurance and finance, quantitative methods for risk management, longevity, pension-saving investment, telematics, motor insurance.

#### **Education**

University of Barcelona (Spain), PhD Economics, 1992

University of Essex (United Kingdom), MA Social Science Data Analysis, 1993

University of Barcelona (Spain), MSc Mathematics, 1987, esp. Mathematical Statistics

UNED (Spain) MA Risk Management and Insurance, 2006

#### **Academic Positions**

ICREA Academia Distinguished Professor 2012-2016, 2019-2024.

Full Professor – Catedrática de Universidad - Departament of Econometrics, Statistics and Applied Economics, University of Barcelona, 2001-present.

Associate Professor – Profesora Titular de Universidad, UB 1993-2001.

Teaching Assistant, UB 1987-1993.

#### **Visiting Academic Positions**

Honorary Visiting Professor in the Faculty of Actuarial Science and Insurance at City, University of London, 2015-2018, 2018-2021, 2021-present.

Visiting researcher at Consortium from Data Analytics in Risk, the University of California, Berkeley (August 2018).

Visiting Professor, Université Paris II Panthéon-Assas (France), since 1993 (1 month/year) to 2016.

Visiting Researcher, University of Texas at Austin (USA), 1993-1994.

## Editorial appointments (current and past)

Chief-editor **North American Actuarial Journal**. 2023 (co-editor 2015-2022), Senior editor **ASTIN Bulletin – The Journal of the International Actuarial Association**. 2009-2022, Associate editor **Geneva Risk and Insurance Review** 2012-, Associate editor **Insurance: Mathematics and Economics** 2017-, Associate editor **Insurance Markets and Companies: Analyses and Actuarial Computations** 2009-, Editor **SORT (Statistics and Operations Research Transactions)**. 2015-,

Member of the editorial board **Anales del Instituto de Actuarios Españoles**. 2008-, Member of the editorial board **Risks**, 2012-, Member of the editorial board **Journal of Financial Risk Management**, 2012-, Associate editor **Insurance and Risk Management Journal** 2011-, Associate editor **Journal of Risk and Insurance**. 2005-2018, Member of the editorial board **The Scientific World Journal**, 2013-2015, Associate editor **Gerencia de Riesgos y Seguros**. 2007-2016, Chief-editor **SORT (Statistics and Operations Research Transactions)**. 2006-2014

## Other Positions

Director of RISKcenter, Research Group on Risk in Insurance and Finance, 1998-

The research involves 20 permanent researchers working in **actuarial statistics** and quantitative finance. Based on a peer-reviewed evaluation in all areas of science, the group was awarded in January 2023 the highest category (top tier) and obtained 60,000 Euros.

Main coordinator and founder of the section on “Risk Analysis” in the **Spanish Society of Statistics and Operations Research**, 2018-

Member of the jury of the **Science National Awards on Statistics** in Spain. This is the maximum level award in recognition of contributions in Statistics by Spanish statisticians. Only statisticians with outstanding contributions, international recognition and lifelong dedication to Statistics have received it. The price is awarded by the King of Spain in an Official ceremony in October each year. I have been in the jury twice representing the Royal Academies in Spain. From 2020 to 2022.

Member of the Board of Trustees, Fundación MAPFRE, 2015-

Appointed member of the Statistical Learning in Actuarial Applications Working Party, Institute and Faculty of Actuaries, IFoA Data Science Research Section. United Kingdom, 2021-

President of the European Group of Risk and Insurance Economists, EGRIE. The Geneva Association, 2011.

Coordinator of the UB team for the AXA Research Fund project “How can private long-term care insurance supplement state systems? The UK as a case study” coordinated by Raphael Wittenberg, PSSRU, London School of Economics 2010-2012.

Coordinator of Research Network on Surveys and Quality of Statistical Information (Catalonia and France), Coordinator, 1997-2005.

PI of UB at the Network on quality and cost-effectiveness in long-term care and dependency prevention UE: VS/2015/0276 coordinated by the London School of Economics and Political Science. 2015-2021.

## International books

Uribe, J. and Guillen, M. (2020) **Quantile Regression for Cross-Sectional and Time Series Data: Applications in Energy Markets Using R**. SpringerBriefs in Finance. Springer. ISBN: 978-3-030-44503-4

- Belles-Sampera, J., Guillén, M., & Santolino, M. (2017) **Risk Quantification and Allocation Methods for Practitioners**. University of Chicago Press Economics Books. Atlantis Studies in Computational Finance and Financial Engineering ISBN: :9789462984059
- Frees, E.W, Derrig, R., Meyer, G. (Eds) (2014) **Predictive Modeling Applications in Actuarial Science. Volume I. Regression with Categorical Dependent Variables**. Chapter 3 by Guillen, M. Cambridge University Press.
- Bolancé, C., Guillen, M., Gustafsson, J. and Nielsen, J.P. (2012) **Quantitative operational risk models** (with examples in SAS and R), Chapman & Hall/CRC.  
<http://www.crcpress.com/product/isbn/9781439895924> ISBN: 978-1-4398-9592-4

### *Submitted Manuscripts*

### **Published articles**

- [1] Masello, L., Sheehan, B., Castignani, G., Guillen, M., Murphy, F. (2025) “Predictive Modeling for Driver Insurance Premium Calculation using Advanced Driver Assistance Systems and Contextual Information” *IEEE-Intelligent Transportation Systems Transactions*, 26, 2, 2202-2211. <https://ieeexplore.ieee.org/abstract/document/10834470>
- [2] Toro-Pérez, D., Camprodon-Rosanas, E., Bolancé, C., Guillen, M., Vilarrubí, S. N. and Limonero, J. T. (2025) “Cross-sectional study of the perceived wellbeing of children in palliative care”, *Anales de Pediatría* (English Edition), 102(1), 503720. <https://doi.org/10.1016/j.anpede.2024.503720>
- [3] Asenjo, S., Soler-García, A., Palomo, A. M., Jordana, A. H., Guillen, M., Bolancé, C., & Vilarrubí, S. N. (2025) “Analysis of the Surprise Question as a tool for predicting death in neonates” *European Journal of Pediatrics*, 184(2), 1-5. <https://link.springer.com/article/10.1007/s00431-024-05879-8>
- [4] Yanez, J. S., Guillén, M. and Nielsen, J. P. (2025) “Weekly dynamic motor insurance ratemaking with a telematics signals bonus-malus score” *ASTIN Bulletin: The Journal of the IAA*, 55, 1-28 <https://doi.org/10.1017/asb.2024.30>
- [5] Masello, L., Sheehan, B., Castignani, G., Guillen, M. and Murphy, F. (2024) “Driver Insurance Premium Calculation using Advanced Driver Assistance Systems and Contextual Information: dataset”, *Mendeley Data*, V1, <https://doi.org/10.1017/10.17632/zf5zv7d8rs.1>
- [6] Bolancé, C., Cao, R. and Guillen, M. (2024) “Conditional likelihood based inference on single index-models for motor insurance claim severity” *SORT-Statistics and Operations Research Transactions*. 48 (2) July-December 2024, 235-258. <https://doi.org/10.1017/10.57645/20.8080.02.2>
- [7] Sun, S., Guillen, M., Pérez-Marín, A. M. and Ni, L. (2024) “Determining Driving Risk Factors from Near-Miss Events in Telematics Data Using Histogram-Based Gradient Boosting Regressors”, *Journal of Theoretical and Applied Electronic Commerce Research*, 19(4), 3477-3497. <https://doi.org/10.3390/jtaer19040169>
- [8] McDonnell, K., Sheehan, B., Murphy, F. and Guillen, M. (2024) “Are electric vehicles riskier? A comparative study of driving behaviour and insurance claims for internal combustion engine, hybrid and electric vehicles” *Accident Analysis & Prevention*, 207, 107761. <https://doi.org/10.1016/j.aap.2024.107761>
- [9] Bagkavos, D., Guillen, M. and Nielsen, J. P. (2024) “Nonparametric conditional survival function estimation and plug-in bandwidth selection with multiple covariates” *TEST*, 1-33. (Journal of the Spanish Statistics and Operations Research Society).

- [10] Toro-Pérez, D., Limonero, J. T., Bolancé, C., Guillen, M., Navarro-Vilarrubí, S. and Camprodon-Rosanas, E. (2024) “Suffering in children and adolescents in paediatric palliative care in Spain: psychometric properties of the qESNA scale” *Anales de Pediatría* (English Edition), 101(4), 238-248.  
<https://www.sciencedirect.com/science/article/pii/S2341287924002308>
- [11] Toro-Pérez, D., Bolance, C., Camprodon-Rosanas, E., Guillen, M., Navarro-Vilarrubí, S. and Limonero, J.T. (2024), “Psychological factors and quality of life in children with palliative needs: Dataset”, *Mendeley Data*, V1, <https://doi.org/10.17632/xt585dkhgt.1>
- [12] Guillen, M., Pérez-Marín, A. M. and Nielsen, J. P. (2024) “Pricing weekly motor insurance drivers’ with behavioral and contextual telematics data” *Heliyon*, Volume 10, Issue 16, 30 August 2024, e36501 <https://www.sciencedirect.com/science/article/pii/S2405844024125327>
- [13] Toro-Pérez, D., Camprodon-Rosanas, E., Vilarrubí, S. N., Bolancé, C., Guillen, M. and Limonero, J. T. (2024) “Evaluating Quality of Life in Pediatric Palliative Care: A Cross-Sectional Analysis of Children’s and Parents’ Perspectives” *European Journal of Pediatrics*, 83, 3, 1305-1314. <https://link.springer.com/article/10.1007/s00431-023-05330-4>
- [14] Santolino, M., Guillen, M., Vidal-Llana, X. (2024). Desigualdad de la incertidumbre económica subjetiva y perspectivas económicas individuales durante la pandemia. *Revista de Métodos Cuantitativos para la Economía y la Empresa*, 1-18. <https://doi.org/10.46661/rev.metodoscuant.econ.empresa.7558>
- [15] Salas-Molina, F., Rodriguez Aguilar, J.A. and Guillen, M. (2023) “A multidimensional review of the cash management problem” *Financial Innovation*, 9(1), 67. <https://doi.org/10.1186/s40854-023-00473-7>
- [16] Masello, L., Castignani, G., Sheehan, B., Guillen, M. and Murphy, F. (2023) “Using contextual data to predict risky driving events: A novel methodology from explainable artificial intelligence” *Accident Analysis & Prevention*, 184, 106997. <https://doi.org/10.1016/j.aap.2023.106997>
- [17] Toro-Pérez, D., Limonero, J.T.; Guillen, M., Bolancé, C., Navarro-Vilarrubí, S., and Camprodon-Rosanas, E. (2023), “QoL pediatric palliative care dataset”, *Mendeley Data*, V1, <https://doi.org/10.17632/m479gs98vz.1>
- [18] Toro-Pérez, D., Camprodon-Rosanas, E., Vilarrubí, S. N., Bolancé, C., Guillen, M. and Limonero, J. T. (2023) “Assessing well-being in pediatric palliative care: A pilot study about views of children, parents and health professionals” *Palliative & Supportive Care*, 37(4), 1-9. <https://doi.org/10.1017/S1478951523000251>
- [19] Restrepo, N., Uribe, J. M. and Guillen, M. (2023) “Price bubbles in lithium markets around the world” *Frontiers in Energy Research*, 11, 1204179. <https://doi.org/10.3389/fenrg.2023.1204179>
- [20] Constantinescu, C., Guillen, M. and Steffensen, M. (2023) “Continuing Risks” *Risks*, 11, 1, 10. <https://doi.org/10.3390/risks11010010>
- [21] Vidal-Llana, X., Uribe, J. M. and Guillén, M. (2023) “European stock market volatility connectedness: The role of country and sector membership” *Journal of International Financial Markets, Institutions and Money*, 82, 101696. <https://doi.org/10.1016/j.intfin.2022.101696>
- [22] Guillen, M., Bardes Robles, I., Bordera Cabrera, E., Acebes Roldán, X., Bolancé, C., Jorba, D. and Moriña, D. (2022) “Acute respiratory infection rates in primary care anticipate ICU bed occupancy during COVID-19 waves” *Plos one*, 17(5), e0267428. <https://doi.org/10.1371/journal.pone.0267428>

- [23] Pitarque, A. and Guillen, M. (2022) “Interpolation of quantile regression to estimate driver’s risk of traffic accident based on excess speed” *Risks*, 10, 1, 19. <https://doi.org/10.3390/RISKS10010019>
- [24] Pons-Novell, J. and Guillen, M. (2022) “The Autonomous Capacity of the Elderly Population in Spain for Shopping and Preparing Meals” *International Journal of Environmental Research and Public Health*, 19 (22), 14828.
- [25] Vidal-Llana, X. and Guillén, M. (2022) “Cross-sectional quantile regression for estimating conditional VaR of returns during periods of high volatility” *The North American Journal of Economics and Finance*, 63, 101835. <https://doi.org/10.1016/j.najef.2022.101835>
- [26] Guillen, M., Bolancé C., Frees, E.W. and Valdez, E.A. (2021) “Case study data for joint modeling of insurance claims and lapsation” *Data in brief* 39, 107639 <https://doi.org/10.1016/j.dib.2021.107639>
- [27] Guillen, M and Cevolini, A. (2021) “Using risk analytics to prevent accidents before they occur – the future of insurance”. *Journal of Financial Transformation* 54, 76-83.
- [28] Santolino, M., Belles-Sampera, J., Sarabia J.M. and Guillen, M. (2021) “An examination of the tail contribution to distortion risk measures” *Journal of Risk*, 23(6), 1-25.
- [29] Guillen, M., Bermúdez, L. and Pitarque, A. (2021). Joint generalized quantile and conditional tail expectation regression for insurance risk analysis. *Insurance: Mathematics and Economics*, 99, 1-8. <https://doi.org/10.1016/j.insmatheco.2021.03.006>
- [30] Pesantez-Narvaez, J., Guillen M. and Alzañiz, M. (2021) “A Synthetic Penalized Logitboost to Model Mortgage Lending with Imbalanced Data” *Computational Economics*, volume 57, 281–309 <https://doi.org/10.1007/s10614-020-10059-5>
- [31] Guillen, M., Nielsen, J. P. and Pérez-Marín, A. M. (2021) “Near-miss telematics in motor insurance” *Journal of Risk and Insurance* 88 (3), 569-589 <https://doi.org/10.1111/jori.12340>
- [32] Frees, E. W., Bolancé, C., Guillen, M. and Valdez, E. A. (2021) “Dependence modeling of multivariate longitudinal hybrid insurance data with dropout” *Expert Systems with Applications*, 185, 115552. <https://doi.org/10.1016/j.eswa.2021.115552>
- [33] Chen, A., Guillen, M., & Rach, M. (2021) “Fees in tontines” *Insurance: Mathematics and Economics*, 100, 89-106. <https://doi.org/10.1016/j.insmatheco.2021.05.001>
- [34] Sarabia, J.M., Prieto, F., Jardá, V. and Guillen, M. (2021) “Multivariate Classes of GB2 Distributions with Applications” *Mathematics*, 9(1), 72. <https://doi.org/10.3390/math9010072>
- [35] Alcañiz, M., Guillen, M., & Santolino, M. (2021) “Differences in the risk profiles of drunk and drug drivers: Evidence from a mandatory roadside survey”, *Accident Analysis & Prevention*, 151, 105947. <https://doi.org/10.1016/j.aap.2020.105947>
- [36] Guillen, M., Pérez-Marín, A.M. and Alcañiz, M. (2021) “Percentile charts for speeding based on telematics information” *Accident Analysis & Prevention*, 150 ,105865. <https://doi.org/10.1016/j.aap.2020.105865>
- [37] Piulachs, X., Andrinopoulou, E. R., Guillén, M. and Rizopoulos, D. (2021) “A Bayesian joint model for zero-inflated integers and left-truncated event times with a time-varying association: Applications to senior health care” *Statistics in Medicine*, 40(1), 147-166. <https://doi.org/10.1002/sim.8767>
- [38] Urbina, J., Santolino, M. and Guillen, M. (2021) “Covariance Principle for Capital Allocation: A Time-Varying Approach” *Mathematics*, 9(16), 2005. <https://doi.org/10.3390/math9162005>
- [39] Sun, S., Bi, J., Guillen, M. and Pérez-Marín, A. M. (2021) “Driving risk assessment using near-miss events based on panel Poisson regression and panel

- negative binomial regression” *Entropy*, 23(7), 829.  
<https://doi.org/10.3390/e23070829>
- [40] Pesantez-Narvaez, J., Guillen, M. and Alcañiz, M. (2021) “RiskLogitboost Regression for Rare Events in Binary Response: An Econometric Approach” *Mathematics*, 9, 579.  
<https://doi.org/10.3390/math9050579>
- [41] Bolancé, C. and Guillen, M. (2021) “Nonparametric Estimation of Extreme Quantiles with an Application to Longevity Risk” *Risks*, 9(4), 77.  
<https://doi.org/10.3390/risks9040077>
- [42] Golden, L.L., Brockett, P.L., Guillen, M. and Manika, D. (2020) “aPRIDIT unsupervised classification with asymmetric valuation of variable discriminatory worth” *Multivariate Behavioral Research*, 55(5), 685-703.  
<https://doi.org/10.1080/00273171.2019.1665979>
- [43] Bolancé, C., Guillen, M. and Pitarque, A. (2020) “A Sarmanov Distribution with Beta Marginals: An Application to Motor Insurance Pricing”, *Mathematics*, 8(11), 2020.  
<https://doi.org/10.3390/math8112020>
- [44] Arvelo, E., de Armas, J. and Guillen, M. (2020) “Assessing the Distribution of Elderly Requiring Care: A Case Study on the Residents in Barcelona and the Impact of COVID-19”, *International Journal of Environmental Research and Public Health*, 17(20), 7486. <https://doi.org/10.3390/ijerph17207486>
- [45] Uribe, J. M. and Guillen, M. (2020) “Generalized Market Uncertainty Measurement in European Stock Markets in Real Time” *Mathematics*, 8(12), 2148.  
<https://doi.org/10.3390/math8122148>
- [46] Guillen, M., Nielsen, J.P., Pérez-Marín, A.M. and Elpidorou, V. (2020) “Can automobile insurance telematics predict the risk of near-miss events?” *North American Actuarial Journal*, 24, 1, 141-152. <https://doi.org/10.1080/10920277.2019.1627221>
- [47] Pesantez-Narvaez, J. and Guillen M. (2020) “Weighted Logistic Regression to Improve Predictive Performance in Insurance” *Advances in Intelligent Systems and Computing*, 894, 22-34. [https://doi.org/10.1007/978-3-030-15413-4\\_3](https://doi.org/10.1007/978-3-030-15413-4_3)
- [48] Sun, S., Bi, J., Guillen, M. and Pérez-Marín, A. M. (2020) “Assessing driving risk using internet of vehicles data: an analysis based on generalized linear models” *Sensors*, 20(9), 2712. <https://doi.org/10.3390/s20092712>
- [49] Uribe, J., Mosquera-López, S. and Guillen, M. (2020) “Characterizing electricity market integration in Nord Pool” *Energy*, 208, 118368.  
<https://doi.org/10.1016/j.energy.2020.118368>
- [50] Pesantez-Narvaez J. and Guillen M. (2020) “Penalized logistic regression to improve predictive capacity of rare events in surveys” *Journal of Intelligent and Fuzzy Systems*, 38(5), 5497-5507. <https://doi.org/10.3233/JIFS-179641>
- [51] Monteverde, M., Palloni, A., Guillen, M. and Tomas, S. (2020) “Early poverty and future life expectancy with disability among the elderly in Argentina” *Revista Latinoamericana de Población*, 14(26), 5-22.  
<https://doi.org/10.31406/relap2020.v14.i1.n26.1>
- [52] Vida-Llana, X. and Guillen Estany, M. (2020) “Advanced analytics pricing for the calculation of post-covid19 scenarios in automobile insurance” *Anales del Instituto de Actuarios Españoles*, 26, 157-179 [https://doi.org/10.26360/2020\\_7](https://doi.org/10.26360/2020_7)
- [53] Sarabia, J.M., Guillen, M., Chuliá H. and Prieto, F. (2019) “Tail risk measures using flexible parametric distributions” *SORT-Statistics and Operations Research Transactions*, 43, 2, 223-236. <https://doi.org/10.2436/20.8080.02.86>
- [54] Guillen, M., Sarabia, J.M., Prieto, F. and Jordá, V. (2019) “Aggregation of dependent risks with heavy-tail distributions” *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, 27, Sup. 1, 77-88.  
<https://doi.org/10.1142/S021848851940004X>

- [55] Guillen, M., Nielsen, J.P., Ayuso, M. and Pérez-Marin, A.M. (2019) “The use of telematics devices to improve automobile insurance rates” *Risk Analysis*, 39(3), 662-672. <https://doi.org/10.1111/risa.13172>
- [56] Denuit, M., Guillen, M. and Trufin, J. (2019) “Multivariate credibility modeling for usage-based motor insurance pricing with behavioural data” *Annals of Actuarial Science*, 13(2), 378-399. <https://doi-org.sire.ub.edu/10.1017/S1748499518000349>
- [57] Pesantez-Narvaez J., Guillen M. and Alcañiz, M. (2019) “Predicting motor insurance claims using telematics data—XGBoost versus logistic Regression” *Risks* 7(2), 70. <https://doi.org/10.3390/risks7020070>
- [58] Pérez-Marin, A.M., Guillen, M., Alcañiz, M. and Bermúdez, Ll. (2019) “Quantile regression with telematics information to assess the risk of driving above the posted speed limit” *Risks* 7(3), 80. <https://doi.org/10.3390/risks7030080>
- [59] Ayuso, M.M., Guillen M. and Nielsen, J.P. (2019) “Improving automobile insurance ratemaking using telematics: incorporating mileage and driver behaviour data” *Transportation*, 46(3), 735-752. <https://doi.org/10.1007/s11116-018-9890-7>
- [60] Pérez-Marin, A.M., Ayuso M.M. and Guillén, M. (2019) “Do young insured drivers slow down after suffering an accident?” *Transportation Research Part F: Psychology and Behaviour*, 62, 690-699. <https://doi.org/10.1016/j.trf.2019.02.021>
- [61] Pérez-Marín, A.M. and Guillen, M. (2019) “Semi-autonomous vehicles: Usage-based data evidences of what could be expected from eliminating speed limit violations” *Accident Analysis and Prevention*, 123, 99-106. <https://doi.org/10.1016/j.aap.2018.11.005>
- [62] Boonen, T.J., Guillen, M. and Santolino, M. (2019) “Forecasting compositional risk allocations” *Insurance, Mathematics and Economics*, 84, 79-86. <https://doi.org/10.1016/j.insmatheco.2018.10.002>
- [63] Fondevila-McDonald, Y., Molinero-Ruiz, E., Vergara-Duarte, M., Guillen, M., Ollé-Espluga, L., Menéndez, M. and Benach, J. (2019) “Is there an estimation bias in occupational health and safety surveys? The mode of administration and informants as a source of error” *Sociological Methods and Research*, 48, 1, 185-201. <https://doi.org/10.1177/0049124116672681>
- [64] Pitarque, A., Pérez Marín, A. M., & Guillén, M. (2019) “Regresión cuantílica como punto de partida en los modelos predictivos para el riesgo” *Anales del Instituto de Actuarios Españoles*, 2019, vol. IV, num. 25, p. 77-117.
- [65] Alcañiz, M., Guillen, M. and Santolino, M. (2018) “Prevalence of drug use among drivers based on mandatory, random tests in a roadside survey” *PLoS ONE*, 13, 6, art. no. e0199302. <https://doi.org/10.1371/journal.pone.0199302>
- [66] Bermúdez, Ll., Guillen, M. and Karlis, D. (2018) “Allowing for time and cross dependence assumptions between claim counts in ratemaking models” *Insurance: Mathematics and Economics*, 83, 161-169. <https://doi.org/10.1016/j.insmatheco.2018.06.003>
- [67] Bolancé, C., Guillen, M., Nielsen, J. P. and Thuring, F. (2018) “Price and Profit Optimization for Financial Services” *Risks*, 6(1), 9-29. <https://doi.org/10.3390/risks6010009>
- [68] Chen, A., Vigna, E. and Guillen, M. (2018) “Solvency requirement in a unisex mortality model” *Astin Bulletin*, 48(3), 1219-1243. <https://doi.org/10.1017/asb.2018.11>
- [69] Donnelly, C., Guillen, M., Nielsen, J.P. and Pérez-Marín, A.M. (2018) “Implementing individual savings decisions for retirement with bounds on wealth” *Astin Bulletin*, 48, 1, 111-137. <https://doi.org/10.1017/asb.2017.34>
- [70] Guillen, M., Sarabia, J.M., Belles-Sampera, J. and Prieto, F. (2018) “Distortion Risk Measures for Non-negative Multivariate Risks” *Journal of Operational Risk*, 13, 2, 35–57. <https://doi.org/10.21314/JOP.2018.206>
- [71] Salas-Molina, F., Rodríguez-Aguilar, J. A., Serrà, J., Guillen, M. and Martin, F. J. (2018) “Empirical analysis of daily cash flow time series and its implications for

- forecasting” *SORT-Statistics and Operations Research Transactions*, 42, 1, 73-98.  
<https://doi.org/10.2436/20.8080.02.70>
- [72] Schulze-Darup, A., Guillen, M. and Piulachs, X. (2018) “Consumer preferences for electric vehicles in Germany” *International Journal of Transport Economics*, 45, 1, 97-122. <https://doi.org/10.19272/201806701006>
- [73] Torra, V., Guillen, M. and Santolino, M. (2018) “Continuous m-dimensional distorted probabilities” *Information Fusion*, 44, 97-102.  
<https://doi.org/10.1016/j.inffus.2017.12.004>
- [74] Uribe, J.M., Chuliá, H. and Guillen, M. (2018) “Trends in the quantiles of the life table survivorship function” *European Journal of Population*, 34, 5, 793-817.  
<https://doi.org/10.1007/s10680-017-9460-2>
- [75] Uribe, J.M., Guillen M. and Mosquera-Lopez, E. (2018) “Uncovering the nonlinear predictive causality between natural gas and electricity prices” *Energy Economics*, 74, 904-916. <https://doi.org/10.1016/j.eneco.2018.07.025>
- [76] Uribe, J. M., Chuliá, H., & Guillen, M. (2017) “Uncertainty, systemic shocks and the global banking sector: Has the crisis modified their relationship?” *Journal of International Financial Markets, Institutions and Money*, 50, 52-68.  
<https://doi.org/10.1016/j.intfin.2017.09.027>
- [77] Bräutigam, M., Guillen, M. and Nielsen, J.P. (2017) “Facing up to longevity with old actuarial methods: a comparison of pooled funds and income tontines”. *The Geneva Papers on Risk and Insurance: Issues and Practice*, 42, 3, 406-422.  
<https://doi.org/10.1057/s41288-017-0056-1>
- [78] Boucher, J-P., Côté, S. and Guillen, M. (2017) “Exposure as duration and distance in telematics motor insurance using generalized additive models”, *Risks*, 5(4), 54;  
<https://doi.org/10.3390/risks5040054>
- [79] Chuliá, H., Guillen, M. and Uribe, J.M. (2017). “Spillovers from the United States to Latin American and G7 Stock Markets: a VAR Quantile Analysis”. *Emerging Markets Review*, 31, 32-46. <https://doi.org/10.1016/j.ememar.2017.01.001>
- [80] Chuliá, H., Guillen, M., and Uribe, J.M. (2017) “Measuring uncertainty in the stock market” *International Review of Economics and Finance*, 48, 18-33.  
<https://doi.org/10.1016/j.iref.2016.11.003>
- [81] Bolviken, E. and Guillen, M. (2017) “Risk aggregation in Solvency II through recursive log-normals” *Insurance: Mathematics and Economics*, 73, 20-26.  
<http://dx.doi.org/10.1016/j.insmatheco.2016.12.006>.
- [82] Piulachs, X., Alemany, R. and Guillen, M. (2017). “Emergency care usage and longevity have opposite effects on health insurance rates”. *Kybernetes*, 46(1), 102-113.  
<https://doi.org/10.1108/K-06-2016-0149>
- [83] Piulachs, X., Alemany, R., Guillen, M. and Rizopoulos, D. (2017) “Joint models for longitudinal counts and left-truncated time-to event data with applications to health insurance” *Sort-Statistics and Operations Research Transactions*, 41(2), 347-372.  
<http://dx.doi.org/10.2436/20.8080.02.63>
- [84] D'Amico, G.; Guillen, M.; Manca, R. (2017) “Multi-state models for evaluating conversion options in life insurance” *Modern Stochastics Theory and Applications*, 4(2), 127-139. <http://dx.doi.org/10.15559/17-VMSTA78>
- [85] Padilla-Barreto, A., Guillen, M. and Bolancé, C. (2017) “Big-data Analytics en seguros” *Anales del Instituto de Actuarios Españoles*, 4 época, 23, 1-19.
- [86] Alemany, R., Bolancé, C., Guillen, M. and Padilla-Barreto, A. E. (2016) “Combining Parametric And Non-Parametric Methods To Compute Value-At-Risk” *Economic Computation and Economic Cybernetics Studies and Research*, 50(4), 61-74.

- [87] Guillen M., Chulià, H., and Llatje, O (2016) “Seasonal and time-trend variation by gender of alcohol-impaired drivers at sobriety checkpoints” *Journal of Studies on Alcohol and Drugs*, 77, 3, 413-420.
- [88] Belles-Sampera, J., Guillén, M., & Santolino, M. (2016) “The use of flexible quantile-based measures in risk assessment”. *Communications in Statistics-Theory and Methods* 45(6), 1670-1681.
- [89] Guillen, M., Bolancé, C., & Santolino, M. (2016, September). Fundamentals of Risk Measurement and Aggregation for Insurance Applications. *Lecture Notes in Computer Science*, 9880, 15-25.
- [90] Piulachs, X., Alemany, R. and Guillen, M. (2016). “Joint modelling of survival and emergency medical care usage in Spanish insureds aged 65+” *PloS ONE*, 11, 4, e0153234.
- [91] Belles-Sampera, J., Guillen, M. and Santolino, M. (2016) “Compositional methods applied to capital allocation problems” *The Journal of Risk*, 19(2),15-30.
- [92] Chulià, H., Guillen, M. and Uribe, J.M. (2016) “Modeling longevity risk with generalized dynamic factor models and vine-copulae” *ASTIN Bulletin*, 46,1, 165-190. doi:10.1017/asb.2015.21.
- [93] Belles-Sampera, J., Guillen, M. and Santolino, M. (2016) “What attitudes to risk underlie distortion risk measure choices?” *Insurance, Mathematics and Economics*, 68,101-109.
- [94] Bolancé, C., Guillen, M., Padilla-Barreto, A.E. (2016) “Predicting probability of customer churn in insurance” *Lecture Notes in Business Information Processing*, 254, 82-91.
- [95] Alaminos, E., Ayuso, M. and Guillen, M. (2016) “An estimation of the individual illiquidity risk for the elderly Spanish population with long-term care needs” *Lecture Notes in Business Information Processing*, 254, 71-81.
- [96] Ayuso, M., Guillen, M., & Pérez-Marín, A.M. (2016) “Using GPS data to analyse the distance travelled to the first accident at fault in pay-as-you-drive insurance” *Transportation Research Part C: Emerging Technologies*, 68, 160-167.
- [97] Ayuso, M., Guillen, M. and Pérez-Marín, A. M. (2016) “Telematics and gender discrimination: some usage-based evidence on whether men’s risk of accidents differs from women’s” *Risks*, 4, 2, 1-10.
- [98] Pitt, D., Guillen, M and Bolancé, C. (2016) “Estimation of Parametric and Nonparametric Models for Univariate Loss Distributions in Finance—an approach using R” *Journal of Financial Education*, 42.
- [99] Padilla, A., Bolancé, C. and Guillen M. (2016) “Cuantificación del riesgo para la tarificación en seguros de automóvil” *Anales del Instituto de Actuarios Españoles*, 22, 1-24
- [100] Guillen, M. (2016) “Big data en seguros” *Indice: revista de estadística y sociedad*, 67, 28-30.
- [101] Golden, L. L., Brockett, P. L., Betak, J. F., Alpert, M. I., Guillen, M. and Derrig, R. (2016) “Predit is a Useful Technique for Detecting Consumer Fraud When No Training Sample Is Available” In *Marketing Challenges in a Turbulent Business Environment* (pp. 305-305). Springer International Publishing.
- [102] Alcañiz, M., Borda Fernández, J. M., Chulià, H., Clavería González, Ó., Guillen, M., López Tamayo, J. and Santolino, M. (2016). *Textos sobre Educación Universitaria: la Docencia de la Estadística*. Barcelona
- [103] Alcañiz, M., Brugulat, P., Guillen, M., Medina, A., Mompert, A. and Solé-Auró, A. (2015) “Catalan population at risk of dependence: health, social support and lifestyle [La población catalana en riesgo de dependencia: salud, apoyo social y estilos de vida]” *Revista de Saúde Pública*, vol.49, 1-10. Epub May 26, 2015. ISSN 1518-8787. <http://dx.doi.org/10.1590/S0034-8910.2015049005585>.

- [104]Bel, G., Bolancé, C., Guillen, M. and Rosell, J. (2015) “The environmental effects of changing speed limits: A quantile regression approach”, *Transportation Research Part D: Transport and Environment*, 36, 76-85.
- [105]Donnelly, C., Gerrard, R., Guillen, M. and Nielsen, J.P. (2015) “Less is more: Increasing retirement gains by using an upside terminal wealth constraint”, *Insurance: Mathematics and Economics*, 64, 259-267.
- [106]Guelman, L. Guillen, M. and Pérez-Marín, A.M. (2015) “A decision support framework to implement optimal personalized marketing interventions”, *Decision Support Systems*, 72, 24-32. 10.1016/j.dss.2015.01.010
- [107]Guelman, L., Guillen, M. and Pérez-Marín, A.M. (2015) “Uplift Random Forests” *Cybernetics & Systems*, Special issue on “Intelligent Systems in Business and Economics”, 46(3-4), 230-248.
- [108]Merigó, J.M., Guillen, M. and Sarabia, J.M. (2015) “The Ordered Weighted Average in the Variance and the Covariance”, *International Journal of Intelligent Systems*, 30, 9, 985-1005.
- [109]Piulachs, X., Alemany, R., Guillen, M. and Serrat, C. (2015) “Joint modeling of health care usage and longevity uncertainty for an insurance portfolio”, *Advances in Intelligent Systems and Computing*, 377, 289-297.
- [110]Uribe, J.M., Chuliá, H. and Guillen, M. (2015) “Asymmetric uncertainty of mortality and longevity in the Spanish population”, *Advances in Intelligent Systems and Computing*, 377, 279-287.
- [111]Donnelly, C., Guillen, M. and Nielsen, J.P. (2014) “Bringing cost transparency to the life annuity market” *Insurance: Mathematics and Economics*, 56, 14-27.  
<http://dx.doi.org/10.1016/j.insmatheco.2014.02.003>
- [112]Posso, M., Brugulat, P., Mompart, M., Medina, A., Alcañiz, M. and Guillen, M., Tresserras, R. (2014) Prevalence and determinants of obesity in children and young people in Catalonia, Spain, 2006-2012 [Prevalencia y condicionantes de la obesidad en la población infantojuvenil. Cataluña 2006-2012]. *Medicina Clínica*, 143 (11), 475-483.
- [113]Ayuso, M., Guillen and Pérez-Marín, A.M. (2014) “Time and distance to first accident and driving patterns of young drivers with pay-as-you-drive insurance” *Accident Analysis and Prevention*, 73, 125-131.
- [114]Ayuso, M., Guillen, M. and Pérez-Marín, A.M. (2014) “Driving habits by gender in insurance pay-as-you-drive or usage-based [Los hábitos de conducción al volante según el género en los seguros pay-as-you-drive o usage-based]” *Anales del Instituto de Actuarios Españoles*, 20, 17-32.
- [115]Belles-Sampera, J., Merigó, J.M., Guillen, M. and Santolino, M. (2014) “Indicators for the characterization of discrete Choquet integrals” *Information Sciences*, 267, 201-216.  
<http://dx.doi.org/10.1016/j.ins.2014.01.047>.
- [116]Guelman, L. and Guillen, M. (2014) “A causal inference approach to measure price elasticity in Automobile Insurance” *Expert Systems with Applications*, 41(2), 387-396.
- [117]Gerrard, R., Guillen, M., Nielsen, J.P. and Pérez-Marín, A.M. (2014) “Long-run savings and investment strategy optimization” *The Scientific World Journal*, vol. 2014, Article ID 510531, 13 pages, 2014. doi:10.1155/2014/510531.  
<http://www.hindawi.com/journals/tswj/2014/510531/>
- [118]Belles-Sampera, J., Guillen, M. and Santolino, M. (2014) “Beyond value-at-risk in finance and insurance: GlueVaR distortion risk measures” *Risk Analysis*, 34(1), 121-134.
- [119]Alcañiz, M., Guillen, M., Santolino, M., Sánchez-Moscona, D., Llatje, O and Ramón, Ll. (2014) “Prevalence of alcohol-impaired drivers based on random breath tests in a roadside survey in Catalonia (Spain)” *Accident Analysis and Prevention*, 65, 131-141.
- [120]Bermúdez, L., Ferri, A. and Guillen, M. (2014) “On the use of risk measures in solvency capital estimation” *International Journal of Business Continuity and Risk Management*, 5(1), 4-13.

- [121] Urbina, J. and Guillen, M. (2014) “An application of capital allocation principles to operational risk and the cost of fraud” *Expert Systems with Applications*, 41(16), 7023-7031.
- [122] Belles-Sampera, J., Guillen, M. and Santolino, M. (2014) “GlueVaR risk measures in capital allocation applications” *Insurance: Mathematics and Economics*, 58(1), 132-137.
- [123] Guelman, L., Guillen, M. and Pérez-Marín, A.M. (2014) “A survey of personalized treatment models for pricing strategies in insurance” *Insurance: Mathematics and Economics*, 58(1), 68-76.
- [124] Guillen, M., Jarner, S.F., Nielsen, J.P. and Pérez-Marín, A.M. (2014) “Risk-adjusted impact of administrative costs on the distribution of terminal wealth for long-term investment” *The Scientific World Journal*, vol. 2014, Article ID 521074, 12 pages, 2014. doi: 10.1155/2014/521074.
- [125] Alcañiz-Zanón, M., Mompert-Penina, A., Guillen-Estany, M., Medina-Bustos, A., Aragay-Barbany, J.M., Brugulat-Guiteras, P. and Tresserras-Gaju, R. (2014) “A new design the the Health Survey of Catalonia (2010-2014): a step forward in health planning and evaluation [Nuevo diseño de la Encuesta de Salud de Cataluña (2010-2014): un paso adelante en planificación y evaluación sanitaria]” *Gaceta Sanitaria*, 28(4), 338-340.
- [126] Medina, A., García, O., Alcañiz, M., Guillen, M., Mompert, A., Brugulat, P., Baranda, L., Martínez, V., Saltó, E. and Tresserras, R. (2014) “L’Enquesta de Salut de Catalunya: una eina per al seguiment actiu de la salut poblacional” *Butlletí Epidemiològic de Catalunya*, 35, 4, 46-55.
- [127] Bermúdez, L., Ferri, A. and Guillen, M. (2014) “On the use of Risk Measures in Solvency Capital Estimation” *International Journal of Business Continuity and Risk Management*, 5(1), 4-13.
- [128] Abbasi, B. and Guillen, M. (2013) “Bootstrap control charts in monitoring value at risk in insurance” *Expert Systems with Applications*, 40(15), 6125–6135.
- [129] Ai, J., Brockett, P.L., Golden, L. and Guillen, M. (2013) “A robust unsupervised method for fraud rate estimation” *Journal of Risk and Insurance*, 80(1), 121-143.
- [130] Alemany, R. and Guillen, M. (2013) “The history of the insurance market in Spain” *Insurance and Risk Management Journal*, 81 (1-2), 103-118.
- [131] Alemany, R., Ayuso, M. and Guillen, M. (2013) “Impact of road traffic injuries on disability rates and long-term care costs in Spain” *Accident Analysis and Prevention*, 60, November 2013, 95-102.
- [132] Alemany, R., Bolancé, M. and Guillen, M. (2013) “A nonparametric approach to calculating value-at-risk” *Insurance: Mathematics and Economics*, 52(2), 255-262.
- [133] Ayuso, M., Guillen, M. and Valero, D. (2013) “Sostenibilidad del sistema de pensiones en España desde la perspectiva de la equidad y la eficiencia” *Presupuesto y Gasto Público*, 71/2013, 193-204.
- [134] Belles-Sampera, J., Guillen, M. and Santolino, M. (2013) “Generalizing some usual risk measures in financial and insurance applications” *Lecture Notes in Business Information Processing*, 145, 75-82.
- [135] Belles-Sampera, J., Merigó, J.M., Guillen, M. and Santolino, M. (2013) “The connection between distortion risk measures and ordered weighted averaging operators” *Insurance: Mathematics and Economics*, 52, 2, 411-420.
- [136] Bermúdez, L., Ferri, A. and Guillen, M. (2013) “A correlation sensitivity analysis of non-life underwriting risk in solvency capital requirement estimation” *Astin Bulletin*, 43(1), 21-37.
- [137] Bolancé, C., Alemany, R. and Guillen, M. (2013) “Efectividad del sistema público de dependencia en España para la reducción del coste individual de cuidados a lo largo de la vida” *Revista Economía Aplicada*, 61, XXI, 97-117.
- [138] Bolancé, C., Guillen, M., Gustafsson, J. and Nielsen J.P. (2013) “Adding prior knowledge to quantitative operational risk models” *Journal of Operational Risk*, 8, 1, 17-32.

- [139]D'Amico, G., Guillen, M. and Manca, R. (2013) "Semi-Markov disability insurance models" *Communications in Statistics-Theory and Methods*, 42(16), 2172-2188.
- [140]Donnelly, C., Guillen, M. and Nielsen, J.P. (2013) "Exchanging uncertain mortality for a cost" *Insurance: Mathematics and Economics*, 52(1), 65-76.
- [141]Ferri, A., Bermúdez, L. and Guillen, M. (2013) "Influencia de la variable aleatoria implícita en la fórmula estándar en el cálculo del SCR del riesgo de suscripción no-vida" *Anales del Instituto de Actuarios Españoles*, 2013, 63-84.
- [142]Guillen, M., Konicz, A.K., Nielsen, J.P. and Pérez-Marín, A.M. (2013) "Do not pay for a Danish interest guarantee. The law of the triple blow" *Annals of Actuarial Science*, 7(2), 192-209.
- [143]Guillen, M., Sarabia, J.M. and Prieto, F. (2013) "Simple risk measure calculations for sums of positive random variables" *Insurance: Mathematics and Economics*, 53(1), 273-280.
- [144]Merigó, J.M., Guillen, M. and Belles-Sampera, J. "Normalizing errors in a unified framework between the weighted average and the OWA operator", *IEEE- Symposium Series on Computational Intelligence* 2013 (FOCI 2013), Singapore, 2013, pp. 130-137. ISBN 978-1-4673-5901-6/13
- [145]Merigó, J.M., Guillen, M. and Sarabia, J.M. (2013) "A Generalization of the Variance by Using the Ordered Weighted Average" *Lecture Notes in Business Information Processing*, 145, 222-231.
- [146]Ornelas, A., Guillen, M. and Alcañiz, M. (2013) "Implications of Unisex Assumptions in the Analysis of Longevity for Insurance Portfolios" *Lecture Notes in Business Information Processing*, 145, 99-107.
- [147]Ramírez Román, A., Guillen i Estany, M. and Sánchez-Moscona, D. (2013) "Seguros agrícolas en México" *Revista Global de Negocios*, 1 (1), 97-105.
- [148]Thuring, F., Nielsen, J.P., Guillen, M. and Bolancé, C. (2013) "Segmenting and selecting cross-sale prospects using dynamic pricing" *ICORES 2013 - Proceedings of the 2nd International Conference on Operations Research and Enterprise Systems*, 103-108.
- [149]Guillen, M., Nielsen, J.P., Pérez-Marín, A.M. and Petersen, K. (2012) "Performance measurement of pension strategies: A case study of Danish life cycle products" *Scandinavian Actuarial Journal*, 4, 258-277.
- [150]Solé-Auró, A., Guillen, M., Crimmins, E.M. (2012) "Health care usage among immigrants and native-born elderly populations in eleven European countries: results from SHARE" *European Journal of Health Economics*, 13(6):741-754.
- [151]Nielsen, J.P., Guillen, M., Bolancé, C. and Gustafsson, J. (2012) "Quantitative modeling of operational risk losses when combining internal and external data sources" *Journal of Financial Transformation*, 35, 179-185.
- [152]Guillen, M. and Comas-Herrera, A. (2012) "How much risk is mitigated by LTC protection schemes? A methodological note and a case study of the public LTC system in Spain" *The Geneva Papers on Risk and Insurance- Issues and Practice*, 37, 712-724.
- [153]Guillen, M. (2012) "Sexless and beautiful data: from quantity to quality" *Annals of Actuarial Science*, 6, 2, 231-234.
- [154]Alemany, R., Bolancé, C. and Guillen, M. (2012) "Disability caused by occupational accidents in the Spanish long-term care system" *Studies in Fuzziness and Soft Computing*, 286, 167-176.
- [155]Alemany, R., Alcañiz, M. and Guillen, M. (2012) "The statistical accuracy of surveys on business and economic perspectives: A case study" *Studies in Fuzziness and Soft Computing*, 286, 413-422.
- [156]Ferri, A., Guillen, M. and Bermúdez, L. (2012) "Solvency capital estimation and risk measures" *Lecture Notes in Business Information Processing*, 115 LNBIP, 34-43.
- [157]Guelman, L., Guillen, M. and Pérez-Marín, A.M. (2012) "Random forests for uplift modeling: An insurance customer retention case" *Lecture Notes in Business Information Processing*, 115 LNBIP, 123-133.

- [158]Jha, S., Guillen, M., Christopher Westland, J. (2012) “Employing transaction aggregation strategy to detect credit card fraud” *Expert Systems with Applications*, 39 (16) 12650-12657.
- [159]Bolancé, C., Ayuso, M. and Guillen, M. (2012) “A nonparametric approach to analysing operational risk with an application to insurance fraud” *The Journal of Operational Risk*, 7, 1, 1-16.
- [160]Thuring, F., Nielsen, J.P., Guillen, M. and Bolancé, C. (2012) “Selecting prospects for cross-selling financial products using multivariate credibility” *Expert Systems with Applications*, 39 (10) 8809-8816.
- [161]Guillen, M., Nielsen, J.P., Scheike, T.H. and Pérez-Marín, A.M. (2012) “Time-varying effects in the analysis of customer loyalty: A case study in insurance” *Expert Systems with Applications*, 39, 3, 3551-3558 available online 9 September 2011, ISSN 0957-4174, 10.1016/j.eswa.2011.09.045.
- [162]Alemany, R., Ayuso, M. and Guillen, M. (2012) “Nuevos factores exógenos en la modelización de la dependencia: la inversión en prevención de la dependencia en la población de edad avanzada” *Anales del Instituto e Actuarios Españoles*, 1-18.
- [163]Ayuso, M.; Guillen, M. Pérez-Marín, A. M. (2012) “Modelos internos en Solvencia II: Su aplicación al cálculo del coeficiente de caída de cartera” *Gerencia de Riesgos y Seguros*, 112, 38-48.
- [164]Pinquet, J., Guillen, M. and Ayuso, M. (2011) “Commitment and lapse behavior in long-term insurance: a case study” *Journal of Risk and Insurance*, 78, 4, 983-1002.
- [165]Boucher, J.-P., Denuit, M. and Guillen, M. (2011) “Correlated random effects for hurdle models applied to claim counts” *Variance*, 5,1, 68-79.
- [166]Boucher, J.P. and Guillen, M. (2011) “A Semi-Nonparametric Approach to Model Panel Count Data” *Communications in Statistics – Theory and Methods*, 40, 4,622-634.
- [167]Guillen, M., Prieto, F. and Sarabia, J.M. (2011) “Modelling losses and locating the tail with the Pareto Positive Stable distribution” *Insurance: Mathematics and Economics*, 49, 3, 454-461. <http://dx.doi.org/10.1016/j.insmatheco.2011.07.004>
- [168]Guillen, M., Linton, O., Nielsen, J.P. and Buch-Kromann, T. (2011) “Multivariate Density Estimation using Dimension Reducing Information and Tail Flattening Transformations” *Insurance: Mathematics and Economics*, 48, 1, 99-110.
- [169]Guillen, M., Pérez-Marín, A.M. and Alcañiz, M. (2011) “A logistic regression approach to estimating customer profit loss due to lapses in insurance” *Insurance Markets and Companies: Analyses and Actuarial Computations*, 2011-2, 43-55.
- [170]Mompert, A., Medina, A., Guillen, M., Alcañiz, M. and Brugulat, P. (2011) “Características metodológicas de la ESCA 2006” *Medicina Clínica*, 137(Supl 2):3-8.
- [171]Alcañiz, M., Alemany, R., Bolancé, C. and Guillen, M. (2011) “El coste de los cuidados de larga duración en la población española: análisis comparativo entre los años 1999 y 2008” *Revista de Métodos Cuantitativos para la Economía y la Empresa*, 12, 111-131.
- [172]Ayuso, M., Guillen, M. and Pérez-Marín, A.M. (2011) “Metodología para el cálculo de escenarios de caída de cartera en Solvencia II en presencia de contagio entre cancelaciones” *Anales del Instituto de Actuarios Españoles*, 17, 13-30.
- [173]Ornelas Vargas, A., Alcañiz, M. and Guillen, M. (2011) “Modelos estadísticos para los costos en carteras colectivas de seguros de salud” *Revista Ibero-Latinoamericana de Seguros*, 20(35), 233-248.
- [174](IMPACT FACTOR 4,786 TOP #5) Porta, M., Gasull, M., Puigdomènech, E., Garí, M., de Basea, M.B., Guillen, M., López, T., Bigas, E., Pumarega, J., Llebaria, X., Grimalt, J.O., Tresserras, R. (2010) “Distribution of blood concentrations of persistent organic pollutants in a representative sample of the population of Catalonia” *Environment International*, 36, 7, 655-664.

- [175](TOP #1 journal) Ayuso, M, Guillen, M. and Alcañiz, M. (2010) “The impact of traffic violations on the estimated cost of traffic accidents with victims” *Accident Analysis and Prevention*, 42, 2, 709-717.
- [176]Solé-Auró, A., Mompert Penina, A., Brugulat Guiterras, P. and Guillen Estany, M. “Inmigración y uso de servicios sanitarios en tres zonas sanitarias de Cataluña [Immigration and use of medical services in three Catalan health zones]” *Revista Española de Economía de la Salud*, 9, 2, 81-91.
- [177]Boucher, J.P., Denuit, M. and Guillen, M. (2009) “Number of accidents or number of claims? An approach with zero-inflated Poisson models for panel data” *Journal of Risk and Insurance*, 76, 4, 821-846.
- [178]D’Amico, G., Guillen, M. and Manca, R. (2009) “Full backward non-homogeneous semi-Markov processes for disability insurance models: a Catalunya real data application” *Insurance: Mathematics and Economics*, 45, 2, 173-179.
- [179]Boucher, J.P. and Guillen, M. (2009) “A survey on models for panel count data with applications to insurance” *RACSAM, Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales, Serie A, Matemáticas*, 103, 2, 277-294.
- [180]Bolancé, C., Guillen M. and Nielsen, J.P. (2009) “Transformation Kernel Estimation of Insurance Claim Cost Distributions” in Corazza, M. and Pizzi, C (Eds.) *Mathematical and Statistical Methods for Actuarial Sciences and Finance*, Springer, 223-231.
- [181]Bermúdez, L., Guillen, M. and Solé, A. (2009) “Escenarios del impacto de la inmigración en la longevidad y dependencia de los mayores en la población española” *Revista Española de Geriatría y Gerontología*, 44, 1, 19–24.
- [182]Guillen, M., Nielsen, J.P. and Pérez-Marín (2008) “Cross-buying behaviour and customer loyalty in the insurance sector” *ESIC Market*, 132, 77-136.
- [183]Guillen, M., Pérez-Marín, A.M. and Nielsen, J.P. (2008) “Froot and Stein revisited once again” *Annals of Actuarial Science*, 3, 1-2, 121-126.
- [184]Ayuso, M. and Guillen, M. (2008) “Fraud in insurance” *Encyclopedia of Quantitative Risk Assessment and Analysis*, Melnick, E. and .Everitt, B. (eds.) John Wiley & Sons Ltd, Chichester, UK, pp 723-727.
- [185]Bolancé, C. Guillen, M. and Nielsen, J.P. (2008) “Inverse Beta transformation in kernel density estimation” *Statistics & Probability Letters*, 78, 1757-1764.
- [186]Bolancé, C., Guillen, M., Pelican, E. and Vernic, R. (2008) “Skewed bivariate models and nonparametric estimation for the CTE risk measure” *Insurance: Mathematics and Economics*, 43, 3, 386-393.
- [187]Bolancé, C., Guillen, M. and Pinquet, J. (2008) “On the link between credibility and frequency premium” *Insurance: Mathematics and Economics*, 43, 2, 209-213.
- [188]Boucher, J.P., Denuit, M. and Guillen, M. (2008) “Models of insurance claim counts with time dependence based on generalisation of Poisson and negative binomial distributions” *Variance*, 2, 1, 135-162.
- [189]Brockett, P. L., Golden, L., Guillen, M., Nielsen, J.P., Parner, J. and Pérez-Marín, A.M. (2008) “Household multiple policy retention effects of first policy cancellation: How much time do you have to stop total customer defection?” *Journal of Risk and Insurance*, 75, 3, 713-737.
- [190]Englund, M., Guillen, M., Gustafsson, J., Nielsen, L.H. and Nielsen, J.P. (2008) “Multivariate latent risk: a credibility approach” *Astin Bulletin*, 38, 1, 137-146.
- [191]Guillen, M., Gustafsson, J. and Nielsen, J.P. (2008) “Combining underreported internal and external data for operational risk measurement” *Journal of Operational Risk*, 3, 4, 1-22.
- [192]Guillen, M., Nielsen, J.P. and Pérez-Marín, A.M. (2008) “The need to monitor customer loyalty & business risk in the European insurance industry” *Geneva Papers on Risk and Insurance-Issues and Practice*, 33, 2, 207–218.

- [193] Guillen, M. and Pinquet, J. (2008) "Long-term care: risk description of a Spanish portfolio and economic analysis of the timing of insurance purchase" *Geneva Papers on Risk and Insurance-Issues and Practice*, 33, 659–672.
- [194] Sarabia, J.M. and Guillen, M. (2008) "Joint modelling of the total amount and the number of claims by conditionals" *Insurance: Mathematics and Economics*, 43, 2, 466-473.
- [195] Bermúdez, L., Blay, D. and Guillen, M. (2008) "Análisis de la aparición de discapacidades en personas mayores de Cataluña" *Revista de Métodos Cuantitativos para la Economía y la Empresa*, 5, 3-16.
- [196] Bermúdez, L., Bolancé, C., Mustafa-Gondolbeu, K. and Guillen, M. (2008) "Tipologías sociodemográficas de individuos con dependencia en España y su supervivencia en estado de salud" *Revista Española de Geriátría y Gerontología*, 43, 1, 19-31.
- [197] Escuder, J., Escuder, R., Pavía, J.M. and Guillen, M. (2008) "Determinación de los tantos brutos de mortalidad" *Anales del Instituto de Actuarios Españoles*, 14, 109-134.
- [198] Boucher, J.P., Denuit, M. and Guillen, M. (2008) "Modelling of insurance claim count with hurdle distribution for panel data" in *Advances in Mathematical and Statistical Modeling* Sarabia, J.M. et al. (Eds). Series on Statistics for Industry and Technology (SIT), Birkhäuser Boston, Inc, Boston. pp 45-59.
- [199] Artís, M., Ayuso, M., Guillen, M. and Monteverde, M. (2007) "Una estimación actuarial del coste individual de la dependencia en la población de mayor edad en España" *Estadística Española*, 49, 165, 373-402.
- [200] Bolance, C., Denuit, M., Guillen, M. and Lambert, Ph. (2007) "Greatest accuracy credibility with dynamic heterogeneity: the Harvey-Fernandes model" *Belgian Actuarial Bulletin*, 7, 1, 14-18..
- [201] Boucher, J.P., Denuit, M. and Guillen, M. (2007) "Risk classification for claim counts: a comparative analysis of various zero-inflated mixed Poisson and hurdle models" *North American Actuarial Journal*, 11, 4, 110-131.
- [202] Guillen, M, Rodríguez, N. and Strassberg, B.A. (2007) "The new responsibilities of social sciences in aging societies. The case of Spain" *International Journal of Interdisciplinary Social Sciences*, 2, 213-228.
- [203] Guillen, M., Nielsen, J.P. and Pérez-Marín, A. (2007) "Improving the efficiency of the Nelson-Aalen estimator: the naive local constant estimator" *Scandinavian Journal of Statistics*, 34, 419-431.
- [204] Pinquet, J., Ayuso, M. and Guillen, M. (2007) "Selection bias and auditing policies for insurance claims" *Journal of Risk and Insurance*, 74, 2, 425-440.
- [205] Guillen, M., Gustafsson, J., Nielsen, J.P. and Pritchard, P. (2007) "Using external data in operational risk" *Geneva Papers of Risk and Insurance - Issues and Practice*, 32, 2, 178-189.
- [206] Delwarde, A., Denuit, M., Guillen, M. and Vidiella-i-Anguera, A. (2007) "Application of the Poisson log-bilinear projection model to the G5 mortality experience" *Belgian Actuarial Bulletin*, 6, 1, 54-68.
- [207] Viaene, S., Ayuso, A., Guillen, M. and VanGheel, D. (2007) "Strategies to detect and prevent fraudulent claims in the automobile insurance industry" *European Journal of Operational Research*, 176, 1, 565-583.
- [208] Carrillo, M., Bermúdez, L.I. and Guillen, M. (2007) "Solidaridad entre asegurados, ¿existen alternativas a los sistemas bonus-malus en uso?" *Anales del Instituto de Actuarios Españoles*, 10, 55-90.
- [209] Ayuso, M., Guillen, M. and Santolino, M. (2007) "El pricing en el seguro del automóvil" *Cuadernos Actuariales*, 11, 1-12.
- [210] Guillen, M., Ayuso, M. and Pinquet, J. (2007) "Economic and statistical models on insurance fraud" *Pravartak*, 123-127, July-Sep.
- [211] Guillen, M., Nielsen, J.P. and Pérez-Marín, A. (2006) "La gestión aseguradora bajo el enfoque del multicontrato" *Revista Española de Seguros*, 127, 529-539.

- [212] Guillen, M., Nielsen, J.P. and Pérez-Marín, A. (2006) “La duración de distintos contratos de seguros en los hogares. Un enfoque integrado” *Gerencia de Riesgos y Seguros*, 96, 4, 23-32.
- [213] Guillen, M., Nielsen, J.P. and Pérez-Marín, A.M. (2006) “Multiplicative hazard models for studying the evolution of mortality” *The Annals of Actuarial Science*, 1, 1, 165-177.
- [214] Guillen, M., Jorgensen, P.L. and Nielsen, J.P. (2006) “Return smoothing mechanisms in life and pension insurance: Path-dependent contingent claims” *Insurance, Mathematics and Economics*, 38, 2, 229-252.
- [215] Guillen, M. and Blay, D. (2006) “Coste de atención a la dependencia en España y comparación con los sistemas francés y alemán” *Revista Española de Seguros*, 125, 145-160.
- [216] Bolance, C., Buch-Larsen, T., Guillen, M. and Nielsen, J.P. (2005) “Kernel density estimation for heavy-tailed distributions using the Champernowne transformation” *Statistics*, 39, 6, 503-518.
- [217] Vidiella-i-Anguera, A. and Guillen, M. (2005) “Forecasting Spanish natural life expectancy” *Risk Analysis*, 25, 5, 1161-1170.
- [218] Caudill, S., Ayuso, M. and Guillen, M. (2005) “Fraud detection using a multinomial logit model with missing information” *Journal of Risk and Insurance*, 72, 4, 539-550.
- [219] Albarran, I., Ayuso, M., Guillen, M. and Monteverde, M. (2005) “A multiple state model for disability using the decomposition of death probabilities and cross-sectional data” *Communications in Statistics: Theory and Methods*, 24, 9, 2063-2076.
- [220] Alegre, A., Ayuso, M., Guillen, M., Monteverde, M. and Pociello, E. (2005) “Medición de la tasa de prevalencia de la dependencia en España y criterios de valoración de la severidad” *Revista Española de Salud Pública*, 79, 3, 351-364.
- [221] Ayuso, M., Guillen, M., Pérez-Torres, J.L. and Albarrán, I. (2005) “Los mercados aseguradores del Arco Mediterráneo: cooperación para su desarrollo” *Gerencia de Riesgos y Seguros*, 22, 90, 41-49.
- [222] Purcaru, O., Guillen, M., and Denuit, M. (2004) “Linear credibility models based on time series for claim counts” *Belgian Actuarial Bulletin*, 4, 62-74.
- [223] Viaene S., Van Gheel, D., Ayuso, M. and Guillen, M. (2004) “Cost sensitive design of claim fraud screens” *Lecture Notes in Artificial Intelligence*, 3275, 78-87.
- [224] Guillen, M. (2004) “Fraud in insurance” *Encyclopedia of Actuarial Science*, J. L. Teugels and B. Sundt, eds. Chichester: John Wiley & Sons, vol. 2, 729-739.
- [225] Guillen, M. and Ayuso, M. (2004) “La importancia del efecto del diseño” *Medicina Clínica*, 122, 1, 35-38.
- [226] Fledelius, P., Guillen, M., Nielsen, J.P. and Vogelius, M. (2004) “Two-dimensional hazard estimation for longevity Analysis” *Scandinavian Actuarial Journal*, 2, 133-156.
- [227] Fledelius, P., Guillen, M., Nielsen, J.P. and Petersen, K.S. (2004) “A comparative study of parametric and non-parametric estimators of old-age mortality in Sweden” *Journal of Actuarial Practice*, 11, 101-126.
- [228] Alegre, A., Ayuso, M., Guillen, M., Monteverde, M. and Pociello, E. (2004) “Avance de la tasa de prevalencia de la dependencia en España y criterios de valoración de la severidad” *Actuarios*, 22, 27-29.
- [229] Brouhns, N., Denuit, M., Guillen, M. and Pinquet J. (2003) “Bonus-malus scales in segmented tariffs with stochastic migration between segments” *Journal of Risk and Insurance*, 70, 577-599.
- [230] Bolance, C., Guillen, M. and Pinquet, J. (2003) “Time-varying credibility for frequency risk models” *Insurance: Mathematics and Economics*, 33, 272-282.
- [231] Artís, M., Ayuso, M. and Guillen, M. (2003) “Approximated perfect values in logistic regression for prediction and outlier detection” *Communications in Statistics-Theory and Methods*, 32, 4, 841-850.

- [232] Bolance, C., Guillen, M. and Nielsen, J.P. (2003) "Kernel density estimation of actuarial loss functions" *Insurance: Mathematics and Economics*, 32, 1, 19-36.
- [233] Guillen, M., Parner, J., Densgsoe, C. and Pérez-Marín, A. M. (2003) "Using logistic regression models to predict and understand why customer leave an insurance company" 465-490, chapter 13 in *Intelligent Techniques in The Insurance Industry: Theory and Applications*, edited by Lakhmi Jain and Arnold Shapiro, World Scientific.
- [234] Juncà, S., Guillen, M., Aragay, J.M., Brugulat, P., Castell, C., Séculi, E., Medina, A. and Tresserras, R. (2003) "Aspectos metodológicos de la evaluación de los objetivos de salud y disminución de riesgo del Plan de Salud de Cataluña para el año 2000" *Medicina Clínica*, 121, 4-9.
- [235] Felipe, M. Guillen, M. and Pérez-Marín, M. (2002) "Recent mortality trends in the Spanish population" *British Actuarial Journal*, 8, 4, 757-786.
- [236] Artís, M., Ayuso, M. and Guillen, M. (2002) "Detection of automobile insurance fraud with discrete choice models and misclassified claims" *Journal of Risk and Insurance*, 69, 3, 325-340.
- [237] Albarrán, I., Ayuso, M., Guillen, M. and Monteverde, M. (2002) "Envejecimiento y discapacidad de la población española" *Actuarios*, 20, 41-42.
- [238] Pinquet, J., Guillen, M. and Bolance, C. (2001) "Long-range contagion in automobile insurance data: estimation and implications for experience rating" *Astin Bulletin*, 31, 2, 337-348.
- [239] Felipe, A., Guillen, M. and Nielsen, J. P. (2001) "Longevity studies based on kernel hazard estimation" *Insurance: Mathematics and Economics*, 28, 191-204.
- [240] Séculi, E., Fusté J., Brugulat, P., Junca, S., Rue. M. and Guillen, M. (2001) "Percepción del estado de salud en varones y mujeres en las últimas etapas de la vida" *Gaceta Sanitaria*, 15, 3, 217-223.
- [241] Albarran, I., Ayuso, M., Guillen, M. and Monteverde, M. (2001) "Medición del envejecimiento y discapacidad de la población en España: a partir de la esperanza de vida residual" *Anales del Instituto de Actuarios Españoles*, 7, 107-134.
- [242] Guillen, M., Junca, S., Rue, M. and Aragay, J. M. (2000) "Efecto del diseño muestral en el análisis de encuestas de diseño complejo. Aplicación a la Encuesta de Salud de Cataluña" *Gaceta Sanitaria*, 14, 5, 399-402.
- [243] Artís, M., Suriñach, J., Grau, C., Guillen, M., Llorente, F., Monreal, A. and Ramos, R. (2000) "Enquesta sobre el grau d'introduccio de l'euro a les empreses ubicades a Catalunya, 1999" *Nota d'Economia*, 66, 3-18.
- [244] Borrás, J. M., Guillen, M., Sanchez, V., Junca, S. and Vicente, R. (1999) "Educational level, voluntary private health insurance and opportunistic cancer screening among women in Catalonia (Spain)" *European Journal of Cancer Prevention*, 8, 427-434.
- [245] Ayuso, M., Guillen, M, and Artís, M. (1999) "Técnicas cuantitativas para la detección del fraude en el seguro del automóvil" *Anales del Instituto de Actuarios Españoles*, 5, 51-83.
- [246] Salsas, P., Guillen, M. and Alemany, R. (1999) "Perfect value and outlier detection in logistic binary choice models" *Communications in Statistics: Theory and Methods*, 28, 6, 1447-1460.
- [247] Artís, M., Ayuso, M. and Guillen, M. (1999) "Modelling different types of automobile insurance fraud behaviour in the Spanish market" *Insurance: Mathematics and Economics*, 24, 1-2, 67-81.
- [248] Ayuso, M. and Guillen, M. (1999) "Modelos de detección de fraude en el seguro de automóvil" *Cuadernos Actuariales*, 8, 135-149.
- [249] Lin, T. and Guillen, M. (1998) "The rising hazards of party incumbency: a discrete renewal analysis" *Political Analysis*, 7, 31-59.

- [250] Betzuen, A., Felipe, A. and Guillen, M. (1997) “Modelos de tablas de mortalidad en España y situación actual” *Anales del Instituto de Actuarios Españoles*, 3, 79-104.
- [251] Guillen, M. and Soldevilla, C. (1996) “On the performance of backpropagation networks in econometric analysis” *INFORMATICA, An International Journal of Computing and Informatics*, 20, 4, 435-441.
- [252] Guillen, M. and Martin, X. (1996) “Estimació de la variancia mostral a l'enquesta de població activa” *Qüestió (now SORT)*, 20, 2, 259-272.
- [253] Dionne, G., Artís, M. and Guillen, M. (1996) “Count data models for a credit scoring system” *Journal of Empirical Finance*, 3, 3, 303-325.
- [254] Upton, G. and Guillen, M. (1995) “Perfect cells, direct models and contingency table outliers” *Communications in Statistics: Theory and Methods*, 24, 7, 1843-1862.
- [255] Artís, M., Guillen, M. and Martínez, J. M. (1994) “A model for credit scoring: an application of discriminant analysis” *Qüestió (now SORT)*, 18, 3, 385-395.
- [256] Murillo, C. and Guillen, M. (1989) “Estimación de las varianzas de las variables de la encuesta de salud de Barcelona” *Gaceta Sanitaria*, 12, 409-419.

#### Books and book chapters [Some in Spanish or Catalan]

- [1] Guillen, M. (2024) “Econometrics of insurance based on telematics information and machine learning” in Handbook of Insurance. Dionne, G. (ed) Springer (forthcoming) <https://link.springer.com/book/10.1007/978-1-4614-0155-1>
- [2] Vidal-Llana, X., & Guillen, M. (2024, June) “Motor Insurers Can Identify Bad Drivers: Creating Individual and Group Risk Scores from Telematics”. In Decision Science Alliance International Summer Conference (pp. 10-16). Cham: Springer Nature Switzerland. [https://link.springer.com/chapter/10.1007/978-3-031-78241-1\\_2](https://link.springer.com/chapter/10.1007/978-3-031-78241-1_2)
- [3] Vidal-Llana, X., Uribe, J.M., Guillen, M. (2022). External Spillover Index and Its Relation with GDP per Capita on European Countries. In: Corazza, M., Perna, C., Pizzi, C., Sibillo, M. (eds) Mathematical and Statistical Methods for Actuarial Sciences and Finance. MAF 2022. Springer, Cham. Pp: 435-440. [https://doi.org/10.1007/978-3-030-99638-3\\_70](https://doi.org/10.1007/978-3-030-99638-3_70). Online ISBN: 978-3-030-99638-3.
- [4] Armas de, J., Guillen, M. and Ramalhino, H. (2021) “Distribución geográfica de la población mayor, Servicios de atención e incidencia de casos en la covid-19: el caso de la ciudad de barcelona” en Envyejecimiento COVID-19 Seminario Ageingnomics 2020 ISBN: 978-84-9844-776-7. 12-29.
- [5] Guillen, M., Láinez, M., Pérez-Marín, A.M., Sánchez, E. (2021) “Modelos predictivos del riesgo y aplicaciones a los seguros” in Nuevos métodos de predicción económica con datos masivos. FUNCAS. Madrid, ISBN: 978-84-17609-48-1. pp. 93-110.
- [6] Guillen, M. (2021) “Pasado, presente y future de los sistemas de pensiones en España” en Sistemas de pensiones para una longevidad creciente, una mirada a los sistemas de pensiones en Bielorrusia, España, Finlandia, México y Suiza. Real Academia de Ciencias Económicas y Financieras, Barcelona. ISBN 978-84-09-30608-4. pp 119-142.
- [7] Ayuso, M., Guillen, M., Valero, D. (2020) “The role of complementary pensions” in Economic Challenges of Pension Systems: A Sustainability and International Management Perspective. Springer International Publishing. London. ISBN 978-303037912-4; 978-303037911-7 pp. 359-375.
- [8] Alaminos, E., Ayuso, M., Guillen, M. (2020) “Demographic and social challenges in the design of public pension schemes”. Economic Challenges of Pension Systems: A

- Sustainability and International Management Perspective. Springer International Publishing. London. ISBN 978-303037912-4;978-303037911-7 pp. 33-55.
- [9] Sarabia, J.M.; Guillen, M.; Prieto, F. (2020) "Modeling the dynamics of the international migration shock" in Real Academia de Ciencias Económicas y Financieras. XIV Acto Académico de la Real Academia de Ciencias Económicas y Financieras 14-15/11/2019. Barcelona, ISBN 978-84-09-18254-1-pp.272-281.
- [10] Guillen, M. (2019) "Uncertainty advantage: the insurance industry faces technological innovations" in Real Academia de Ciencias Económicas y Financieras. Acto Académico de la Real Academia de Ciencias Económicas y Financieras en la Universidad de Tel-Aviv. Barcelona, ISBN 978-84-09-08132-5.pp. 105-112
- [11] Valero, D. (dir), Ayuso M., Guillen, M., Alemany, R., Bolancé, C., Alcañiz, M., Pérez-Marín, A. M., Santolino, M., Chuliá, H. (2018) Gestión eficiente del ahorro tras la jubilación. Fundación Instituto Edad & Vida, Barcelona. ISBN 978-84-09-04826-7, D.L: M-31239-2018.
- [12] Guillen, M. and Uribe, J.M. (2018) "Financial Consumer Protection in Spain." An International Comparison of Financial Consumer Protection. Springer, Singapore, 2018. 333-344.
- [13] Guillen M and Pérez-Marín, A.M. (2018) "The Contribution of Usage-based Data Analytics to benchmark Semi-autonomous Vehicle Insurance" in M. Corazza, M. Durbán, A. Grané, C. Perna, M. Sibillo (Eds.) Mathematical and Statistical Methods for Actuarial Sciences and Finance, ISBN 978-3-319-89824-7. Springer.
- [14] Sarabia, J.M., Prieto, F. and Guillen, M (2018) Contributions to Risk Analysis: RISK 2018. Cuadernos de la Fundación, 223. Fundación Mapfre, Madrid. Online: [https://www.fundacionmapfre.org/documentacion/publico/i18n/catalogo\\_imagenes/grupo.cmd?path=1096344](https://www.fundacionmapfre.org/documentacion/publico/i18n/catalogo_imagenes/grupo.cmd?path=1096344)
- [15] Alaminos, E., Ayuso, M. and Guillen, M. (2017) Demographic and social challenges in the design of public pension schemes, en Public pension systems: the greatest economic challenge of the 21st century, Springer (in press).
- [16] Ayuso, M., Guillén, M., Valero, D. (2017) The role of complementary plans, en Public pension systems: the greatest economic challenge of the 21st century, Springer (in press).
- [17] Ayuso, M., Guillén, M., Valero, D. (2017) Productos para la etapa de retiro, alternativas y costes. En Carranza, Melguizo y Tuesta (Eds.) Ideas para una Reforma de Pensiones (in press)
- [18] Donnelly, C., Guillen, M., Nielsen, J.P. (2016) "Fundamentals of Cost and Risk that Matter to Pension Savers and Life Annuitants" In *Retirement System Risk Management. Implications of the New Regulatory Order* (Mitchel, O.S, Maurer, R, Orszag, J.M.) pp. 171-185. Oxford University Press ISBN: 978-0-19-878737-2.
- [19] Guillen, M. (2015) Riesgo y seguro en economía. Discurso de ingreso. Real Academia de Ciencias Económicas y Financieras. Barcelona. 15 de octubre de 2015. ISBN: 978-84-608-2361-2
- [20] Golden, L. L., Brockett, P. L., Betak, J. F., Alpert, M. I., Guillen, M., Derrig, R. (2016). "Predit Is a Useful Technique for Detecting Consumer Fraud When No Training Sample Is Available". In *Marketing Challenges in a Turbulent Business Environment* (pp. 305-305). Springer International Publishing.
- [21] Chuliá, H., Guillen, M., Santolino, M. (2016). "The economic and financial crisis: origins and consequences" in: *Socio-Spatial Impacts of the Economic crisis in Southern European Cities*, J. Knieling and F. Othengrafen (eds.) ed. Routledge, Taylor & Francis. Chapter 2. 13-26.
- [22] Gómez-Deniz, E., Guillen Estany, M., Vázquez Polo, F.J. (Eds) (2013) *Investigaciones en Seguros y Gestión del Riesgo: RIESGO 2013*. Cuadernos de la Fundación 194. Fundación Mapfre, Madrid.
- [23] Ornelas, A., Guillen, M. (2013) "Aplicación del modelo Brass type a la mortalidad de la población asegurada mexicana" en *Investigaciones en Seguros y Gestión del Riesgo:*

- RIESGO 2013*, Gómez-Deniz, E., Guillen Estany, M., Vázquez Polo, F.J. (Eds), 101-112.
- [24] Guillen, M. (2013) *La quantificació del risc: avantatges i limitacions de les assegurances*. Reial Acadèmia de Doctors. Publicacions de la RAD, 89. Barcelona.
- [25] Blanco-Morales Limones, P., Guillen Estany, M. (Eds) (2013) *El Sector Asegurador ante las Transformaciones del Estado del Bienestar*. Fundación de Estudios Financieros. Madrid.
- [26] Guillen, M., Ornelas, A., Romero, M.J. (2013) "La igualdad, una exigencia para el seguro: problemas derivados de las tablas unisex" en Blanco-Morales Limones, P., Guillen Estany, M. (Eds) *El Sector Asegurador ante las Transformaciones del Estado del Bienestar*. Fundación de Estudios Financieros. Madrid.
- [27] Ayuso, M. (Dir.), Albarrán, I., Alcañiz, M., Alemany, R., Alonso, P., Bécue, M., Bolancé, C., Dionne, G., Guillen, M., Melgar, M.C., Ordaz, J.A., Pagès, J., Pinquet, J., Santolino, M. (2011) *Métodos Cuantitativos en Economía del Seguro del Automóvil*. UB Barcelona.
- [28] Fera, J.M, Jiménez, E., Guillen, M. (Eds) (2011) *Investigaciones en Seguros y Gestión del Riesgo: Riesgo 2011*. Fundación Mapfre, Madrid.
- [29] Guillen, M., Bolancé, C. and Alemany, R. (2011) "The Spanish long-term care system-a case study" in Karsten Krüger & Eric de Gier (Eds), *Long-Term Care Services in 4 European Countries. Labour Markets and Other Aspects* (14-28). Barcelona, Nijmegen.
- [30] Ayuso, M. and Guillen, M. (2011) "El coste de la los cuidados de larga duración en España bajo criterios actuariales: es sostenible su financiación?" en *El Estado del Bienestar en la encrucijada: Nuevos retos ante la crisis global*, Colección Economi Gerizan, Federación de Cajas de Ahorro Vasco-Navarrasm Vitoria-Gasteiz, 213-228.
- [31] Ayuso, M. and Guillen, M. (2011) "La mediación dentro de la pirámide de litigiosidad para Cataluña: análisis de costes", in *Libro Blanco de la Mediación en Cataluña*, Departament de Justícia, Generalitat de Catalunya, Barcelona, 895-942.
- [32] Ayuso, M., Pérez-Marín, A.M. and Guillen, M. (2011) "Calculation of scenarios for portfolio lapse, when considering contagion between cancelations in non-life insurance" in Fera, J.M, Jiménez, E., Guillen, M. (Eds), *Investigaciones en Seguros y Gestión del Riesgo: Riesgo 2011* (109-122). Madrid: Fundación Mapfre.
- [33] Blanco-Morales, P. and Guillen Estany, M. (Dir.) *Estudio sobre el Sector Asegurador en España (2010): los aspectos cualitativos de Solvencia II*, Fundación de Estudios Financieros, Madrid.
- [34] Ayuso, M., Guillen, M. and Moya, M. (2010) "La función actuarial", en *Estudio sobre el Sector Asegurador en España (2010): los aspectos cualitativos de Solvencia II*, Fundación de Estudios Financieros, 38, 159-168, Madrid.
- [35] Ayuso, M.; Guillen, M. (2011) "La mediación dentro de la pirámide de litigiosidad para Cataluña: análisis de costes", en *Libro Blanco de la Mediación en Cataluña*, Departament de Justícia, Generalitat de Catalunya, Barcelona, 895-942.
- [36] Ayuso, M. and Guillen, M. (2010) "La mediació dins la piràmide de litigiositat per a Catalunya: Anàlisi de costos", *Llibre Blanc de la Mediació a Catalunya*, 825-872.
- [37] Guillen, M. and Ayuso, M. (2010) "La estructura de los mercados" in *Estudio sobre el sector asegurador en España*, colección Papeles de la Fundación, número 35, 91-116. Madrid. <http://www.fef.es/sec.php?id=64>
- [38] Guillen, M. and Domínguez, I. (2010) "Aspecto económicos " in *Estudio sobre el sector asegurador en España*, colección Papeles de la Fundación, número 35. 267-278. Madrid. <http://www.fef.es/sec.php?id=64>
- [39] Guillen, M. and Pérez-Marín, A. M. (2009) *Riesgo de negocio ante asegurados con múltiples contratos*. Fundación Mapfre, Madrid.
- [40] Guillen, M., Heras, A. and Vilar, J.L. (eds.) (2009) *Investigación en seguros y gestión de riesgos: RIESGO 2009*. Fundación Mapfre, Madrid.
- [41] Guillen, M. and Sarabia, J.M. (eds.) (2007) *Investigación en seguros y gestión de riesgos*. Universidad de Cantabria, Santander.

- [42] Guillen, M. (dir) (2006) *Longevidad y dependencia en España. Consecuencias sociales y económicas*. Fundación BBVA. Madrid.
- [43] Guillen, M.; Ayuso, M.; Bolance, C.; Bermúdez, L.; Morillo, I.; Albarrán, I. (2005) *El seguro de automóviles: estado actual y perspectiva de la técnica actuarial*. Fundación MAPFRE Estudios. Madrid.

## Lecture notes

- Guillen, M.; Bécue, M.; Alcañiz, M. (2011) *Guia de pràctiques de mostreig estadístic*. Col·lecció OMADO. Universitat de Barcelona. ISBN: 978-84-615-0779-5. <http://hdl.handle.net/2445/20467>.
- Ayuso, M.; Corrales, H.; Guillen, M.; Pérez-Marín, A.M.; Rojo, J.L. (2011) *Estadística actuarial vida*. Edicions UB, 345 pp.. ISBN: 84-8338-293-8. Dipòsit legal: B-38.862-01. 3 ed.
- Alcañiz, M. (coord.) (2011) *Textos sobre innovación docente en el ámbito del Análisis de Datos en Economía y Empresa*. Edició a càrrec del Grup Consolidat d'Innovació Docent d'Anàlisi de Dades en Economia i Empresa. Universitat de Barcelona, ISBN: 978- 84-615-3084-7. Authors: M. Alcañiz, M. Ayuso, C. Bolancé, M. Guillen, A.M. Pérez-Marín et al.
- Alcañiz., M.; Bécue, M.; Bolancé, C.; Guillen, M.; Planas, D. (2011) *Mostreig estadístic: problemes i pràctiques*. Col·lecció OMADO. Universitat de Barcelona, ISBN: 978- 84-615-0150-2. <http://hdl.handle.net/2445/19662>.
- Alcañiz., M.; Guillen, M. (2010). *Exercicis de Mostreig Estadístic*. Publicacions docents, Universitat de Barcelona.
- Albarrán, I.; Guillen, M.; Ayuso, M. (2003) “Modelo de regresión lineal múltiple y modelos de elección discreta (logit, probit, multinomiales y censurada)” 277-236, in *Análisis Multivariable para las Ciencias Sociales*, edited by Lévy, J.P., Prentice Hall. Madrid.
- Ayuso, M.; Corrales, H.; Guillen, M.; Pérez-Marín, A.M.; Rojo, J.L. (2001) *Estadística Actuarial Vida*. Ediciones UB. Barcelona.
- Alea, V.; Guillen, M.; Muñoz, C.; Torrelles, E.; Viladomiu, N. (2001) *Estadística con SPSS v10.0*. Edicions UB. Barcelona.
- Artis, M.; Clar, M.; Barrio, T.; Guillen, M.; Suriñach, J. (2000) *Tòpics d'econometria*. Col·lecció manuals, 27 EDIUOC. Barcelona.
- Alea, V.; Guillen, M.; Muñoz, C.; Torrelles, E.; Viladomiu, N. (1999) *Estadística aplicada a les ciències econòmiques i socials*. Editorial Mc Graw-Hill / Edicions UB. Barcelona.
- Artís, M.; Suriñach, J.; Clar, M.; Barrio, T.; Guillen, M. (1999) *Introducció a l'Econometria*. Edicions UB / EDIUOC. Barcelona.
- Guillen, M.; Ayuso, M.; Carrillo, M. (1996) *Econometria actuarial: material docent i casos pràctics*. Col·lecció Textos Docents, 57. Edicions UB. Barcelona.
- Alea, V.; Guillen, M.; Muñoz, C.; Torrelles, E.; Viladomiu, N. (1996) *Estadística I y II: Aplicaciones prácticas*. Col·lecció Textos Docents 59 / Edicions UB. Barcelona.

## Other publications

### a) Monographs

- Bolancé, C. (coord) (2008) *Indicadores Bivariantes de Dependencia para Personas Discapacitadas*. IMSERSO. Madrid.
- Guillen, M. (coord) (2007) *Indicadores de dependencia y calidad de vida*. IMSERSO. Madrid.
- Bolancé, C. (coord) (2007) *Alternativas de cofinanciación de los costes de la dependencia en España*. IMSERSO. Madrid.

- Guillen, M. (coord), (2005) *Causas, evolución y análisis comparativo de la dependencia en la población española de mayor edad*. Portal Mayores IMSERSO. Madrid.
- Albarrán, I.; Ayuso, M.; Guillen, M.; Pérez-Torres, J.L. (2005) *Mercados aseguradores en e Área Mediterránea y cooperación para si desarrollo* Fundación MAPFRE Estudios. Madrid.
- Ayuso; M.; Guillen, M. (2003) *El frau a l'assegurança d'automòbil*. Societat Catalana d'Economia. Barcelona.
- Guillen, M.; Bolance, C. (2001) *Sistemas Bonus-Malus generalizados con inclusión de los costes de los siniestros*. Fundación MAPFRE Estudios. Madrid.
- Felipe, A.; Guillen, M. (1998) *Evolución y predicción de las tablas de mortalidad dinámicas para la población española*. Cuaderno de la Fundación MAPFRE Estudios, 46. Madrid.
- Artis, M.; Suriñach, J.; Grau, C.; Guillen, M.; Llorente, F.; Monreal, A.; Ramos, R. (2000) *Enquesta sobre el grau d'introducció de l'euro a les empreses ubicades a Catalunya*. Col·lecció Estudis i Informes 6. Departament d'economia i finances. Generalitat de Catalunya.

## b) Proceedings and articles published by invitation

- Guillen, M. (2021) “Prevenir los accidentes antes de que sucedan con telemática” Revista INDICE, Instituto Nacional de Estadística. Madrid.
- Guillen, M. (2019) “Tontines i pensions de l'era digital” Actuaris, AdC, 21, <http://actuaris.org/adc21-2019-2-ca/>
- Guillen, M. (2019) “Té solució el problema de les pensions?” Revista econòmica de Catalunya, 79, 10-13.
- Guillen, M. (2018) “Pensions privades i el retorn a les tontines, un invent de fa 300 anys” Butlletí de la Societat Catalana de Matemàtiques, 44, 37-40. <https://scm.iec.cat/wp-content/uploads/2019/01/N44b.pdf> ISSN: 1696-8247, D.L.: B.9480-2003
- Guillen, M. (2016) “Big data en seguros”. Revista INDICE, Instituto Nacional de Estadística. Madrid.
- Guillen, M. (2013) “Will we ever get a pension? [Cobrem una pensió?]” Blog de l'any internacional de l'estadística. <https://e2013.wordpress.com/2013/05/13/cobrem-una-pensio/>
- Pinquet, J., Guillen, M. and Ayuso, M. (2010) “Long-Term Insurance: A Case Study” *Pravartak- Journal of Insurance and Risk Management*, accepted.
- Guillen, M. (2009) “La ley de dependencia en la comunidad de Madrid” Boletín ARMTE.
- Bermúdez, Ll. and Guillen, M. (2008) “Algunas implicaciones sociales y económicas de la longevidad y la dependencia” *Zerbitzuan*, 44, 1-10.
- Bermúdez, Ll. and Guillen, M. (2008) “La despesa social davant l'evolució demogràfica de l'envelliment; el paper de les polítiques públiques” *Quaderns d'Acció Social i Ciutadania*, 4, 81-83.
- Guillen, M. (2008) “Longevitat i dependència. Implicacions socials i econòmiques” *Barcelona Societat*, 14, 45-58.
- Pérez-Marín, A.M.; Guillen, M.; Nielsen, J.P. (2005) “The naive local constant modified Nelson-Aalen estimator to the analysis of customer retention” *Actas del International Seminar on Nonparametric Inference*, 1, 102-105.
- Bolancé, C.; Buch-Larsen, T.; Guillen, M.; Nielsen, J.P (2005) “Kernel density estimation for heavy-tailed distributions using the Champernowne distribution” *Actas del International Seminar on Nonparametric Inference*, 1, 90-93.
- Beltrán, M.; Bolancé, C.; Costa, A.; Guillen, M. (2005) “Data mining en economía: Una aplicación práctica al comercio exterior” *Actas del 9º Congreso de Economía de Castilla y León*, 1, 1, 398.

- Purcaru, O.; Guillen, M.; Denuit, M. (2004) "Linear credibility models based on time series for claim counts" Discussion Paper 0422. Institut de Statistique (Université Catholique de Louvain).
- Guillen, M. (2004) "L'assegurança de cotxe, cara però eficaç" *El Periódico*, 17-10-04, 10.
- Alemaný, R.; Bolancé, C; Guillen, M. (2003) "Métodos estadístico-económicos para la tarificación en seguros" in *Información económica y técnicas de análisis en el siglo XXI*, edited by J.M. Casas y A. Pulido. INE. Madrid.
- Ayuso, M.; Guillen, M. (2001) "Seminarios en Colombia y México sobre fraude en el seguro del automóvil" *Cadastró nacional*, 9, 10-11.
- Ayuso, M.; Guillen, M. (2000) "Tipología de fraude en el seguro del automóvil y principales indicadores de alerta" *Cadastró nacional*, 8, 10-13.
- Guillen, M.; Soldevilla, C. (1999) "Xarxes neuronals artificials: una forma intel·ligent de prendre decisions" *L'assessor d'empreses*, 9, 18-22.
- Ayuso, M.; Guillen, M. (1999) "El fraude: en el punto de mira del grupo europeo de economistas del riesgo y del seguro" *Cadastró nacional*, 7, 10-12.
- Ayuso, M.; Guillen, M. (1999) "Fraude: Uma mudança de attitude" *Cadastró nacional*, 6-10-11.
- Ayuso, M.; Guillen, M.; Salsas, P. (1999) "A binary choice model with omission errors for the detection of insurance fraud" *Actas del MS'99 International Conference on Modelling and Simulation*, 33-42. Santiago de Compostela.
- Alcañiz, M.; Guillen, M. (1999) "El uso del vehículo privado como medio de desplazamiento al trabajo" *Cyclops. Revista de Salud Laboral*, 33, 9-15.
- Felipe, A.; Guillen, M.; Artís, M. (1998) "Recent mortality patterns in the Spanish population" *Transactions of the 26<sup>th</sup> International Congress of Actuaries*, 9, 55-74. Birmingham, Reino Unido. [Plenary session]
- Alcañiz, M.; Guillen, M. (1998) "La siniestralidad en una población del Area Metropolitana de Barcelona: características de los accidentes de tráfico de L'Hospitalet de Llobregat" in *El transporte en el siglo XXI*. López Pita, A. y Robusté, F. (ed.). CIMNE, 579-586.
- Soldevilla, C.; Guillen, M. (1997) "Consumer credit scoring using artificial neural networks" in *Intelligent Technologies in Accounting and Finance*. Ed. Boson E., 117-128.

### c) Working papers

- Bolancé Losilla, C., Guillén, M., Pérez Marín, A. M., & Orteu, A. P. (2024). Difference-in-Difference models to estimate causal effects on auto insurers behavior. IREA–Working Papers, 2024, IR24/11. [https://www.ub.edu/irea/working\\_papers/2024/202411.pdf](https://www.ub.edu/irea/working_papers/2024/202411.pdf)
- Uribe Gil, J. M., Guillén, M., & Vidal-Llana, X. (2021). Rethinking Asset Pricing with Quantile Factor Models. IREA–Working Papers, 2021, IR21/04. [http://diposit.ub.edu/dspace/bitstream/2445/175659/1/IR21\\_004\\_Uribe%2BGuillen%2BVidal.pdf](http://diposit.ub.edu/dspace/bitstream/2445/175659/1/IR21_004_Uribe%2BGuillen%2BVidal.pdf)
- Vidal-Llana, X., Salort Sánchez, C., Coia, V., & Guillen, M. (2022) "Non-Crossing Dual Neural Network: Joint Value at Risk and Conditional Tail Expectation estimations with non-crossing conditions" IREA–Working Papers, 2022, IR22/15. [http://diposit.ub.edu/dspace/bitstream/2445/190480/1/IR22\\_015\\_Vidal%20Llana%20et%20al.pdf](http://diposit.ub.edu/dspace/bitstream/2445/190480/1/IR22_015_Vidal%20Llana%20et%20al.pdf)
- Guillen, M., Santolino, M., & Vidal-Llana, X. (2022) "Inequality of subjective economic uncertainty and individual economic prospects in the pandemic period" IREA–Working Papers, 2022, IR22/02. [http://diposit.ub.edu/dspace/bitstream/2445/183677/1/IR22\\_002\\_Guillen%2BSantolino%2BVidal.pdf](http://diposit.ub.edu/dspace/bitstream/2445/183677/1/IR22_002_Guillen%2BSantolino%2BVidal.pdf)

- Toro, F., Serrano, M. and Guillen, M. (2019) "Who pollutes more? Gender differences in consumptions patterns" IREA-Working paper series IR19/06. [http://www.ub.edu/irea/working\\_papers/2019/201906.pdf](http://www.ub.edu/irea/working_papers/2019/201906.pdf)
- Guillen, M. and Pérez Marín, A. M. (2018) "The transition towards semi-autonomous vehicle insurance: the contribution of usage-based data" UB Economics–Working Papers, 2018, IR18/11.
- Guillen, M., Nielsen, J. P., Ayuso, M. and Pérez Marín, A. M. (2018) "Exposure to risk increases the excess of zero accident claims frequency in automobile insurance" UB Economics–Working Papers, 2018, IR18/10.
- Ayuso, M., Guillén, M. and Nielsen, J. P. (2016) "Improving automobile insurance ratemaking using telematics: incorporating mileage and driver behaviour data" (No. XREAP2016-08).
- Guelman, L., Guillen, M. and Pérez-Marín, A.M. (2014) "Optimal personalized treatment rules for marketing interventions: A review of methods, a new proposal, and an insurance case study", UB Riskcenter Working Papers Series 2014-06.
- Alemany, R., Bolancé, C. and Guillen, M. (2014) "Accounting for severity of risk when pricing insurance products", UB Riskcenter Working Papers Series 2014-05.
- Bolancé, C., Guillen, M. and Pitt, D. (2014) "Non-parametric models for univariate claim severity distributions - an approach using R", UB Riskcenter Working Papers Series 2014-01.
- Belles-Sampera, J.; Guillen, M.; Merigó, J.M.; Santolino, M. (2013) "Indicators for the characterization of discrete Choquet integrals" Working paper 2013/11, Research Institute of Applied Economics.
- Alcañiz, M.; Guillen, M.; Sánchez-Moscona, D.; Santolino, M.; Llatje, O.; Ramon, Ll. (2013) "Prevalence of alcohol-impaired drivers based on random breath tests in a roadside survey" Working paper 2013/13, Research Institute of Applied Economics.
- Belles-Sampera, J.; Guillen, M. and Santolino, M. (2013) "The use of flexible quantile-based measures in risk assessment" Working paper 2013/23, Research Institute of Applied Economics.
- Belles-Sampera, J.; Guillen, M.; Santolino, M. (2013) "Beyond Value-at-Risk: GlueVaR Distortion Risk Measures" Working paper 2013/02, Research Institute of Applied Economics.
- Alemany, R.; Bolancé, C.; Guillen, M. (2012) "Nonparametric estimation of Value-at-Risk" XREAP2012-19.
- D'Amico, G.; Guillen, M.; Manca, R. (2012) "Discrete time Non-homogeneous Semi-Markov Processes applied to Models for Disability Insurance" XREAP2012-05.
- Ferri, A.; Bermúdez, Ll.; Guillen, M. (2012) "How to use the standard model with own data?" XREAP2012-03.
- Ferri, A.; Guillen, M.; Bermúdez, Ll. (2012) "Solvency Capital estimation and Risk Measures" XREAP2012-02.
- Belles-Sampera, J., Merigó, J.M., Guillen, M. and Santolino, M. (2012) "The connection between distortion risk measures and ordered weighted averaging operators" 31 pag. ISSN 2014-1254 Working paper 2012/01, Research Institute of Applied Economics.
- Guillen, M., Pérez-Marín, A.M. and Alcañiz, M. (2011) "A logistic regression approach to estimating customer profit loss due to lapses in insurance" Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP 2011-10.
- Ayuso, M., Guillen, M. and Bolancé, C. (2011) "Loss risk through fraud in car insurance" Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP 2011-08.
- Bermúdez, L., Ferri, A. and Guillen, M. (2011) "A correlation sensitivity analysis of non-life underwriting risk in solvency capital requirement estimation" Documents de treball

- de la Xarxa de Referència en Economia Aplicada, XREAP 2011-12 and Working paper 2011/13, Research Institute of Applied Economics.
- Guillen, M. and Comas-Herrera, A. (2011) "How much risk is mitigated by LTC Insurance? A case study of the public system in Spain" Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP 2011-07.
- Pitt, D., Guillen, M. and Bolancé, C. (2011) "Estimation of Parametric and Nonparametric Models for Univariate Claim Severity Distributions - an approach using R" Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP 2011-06.
- Bolancé, C ; Alemany, R ; and Guillen M. (2010) "Prediction of the economic cost of individual long-term care in the Spanish population" Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP2010-8 i Documents de l'Institut de Recerca en Economia Aplicada IREA2010-11.
- Pitt, D.; Guillen, M. (2010) "An introduction to parametric and non-parametric models for bivariate positive insurance claim severity distributions" Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP 2010-8.
- Solé-Auró, A.; Guillen, M.; Crimmins, E.M. (2009) "Health care utilization among immigrants and native-born populations in 11 European countries. Results from the Survey of Health, Ageing and Retirement in Europe Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP 2009-10 i Documents de l'Institut de Recerca en Economia Aplicada IREA2009-20.
- Bermúdez, Ll.; Guillen, M.; Solé, A. (2007) "Impacto de la inmigración sobre la esperanza de vida en salud y en discapacidad de la población española" Documents de treball de la Xarxa de Referència en Economia Aplicada, XREAP2007-13.
- Alcañiz, M; Costa, A., Guillen, M.; Luna, C.; Rovira, C. (2006) "Calculation of the variance in surveys of the economic climate" Documents de treball de la Xarxa de Referència en Economia Aplicada CREAP2006-06.
- Guillen, M., Nielsen, J. P., Scheike, T. and Pérez-Marín, A. M. (2006) "Time-varying effects when analysing customer lifetime duration: application to the insurance market", Documents de Treball de l'IREA, 2006/4.
- Bolance, C., Denuit, M., Guillen, M. and Lambert, Ph. (2004) "Bayesian experience rating with dynamic heterogeneity" Working Paper 04-10, Institut des Sciences Actuarielles, Université Catholique de Louvain, Louvain-la-Neuve, Belgium.
- Delwarde, A., Denuit, M., Guillen, M. and Vidiella, A. (2004) "Application of the Poisson log-bilinear projection model to the G5 mortality experience" Working Paper 04-11, Institut des Sciences Actuarielles, Université Catholique de Louvain, Louvain-la-Neuve, Belgium.

## PhD supervision

- Vidal-Llana, J.J. (2023) *Essays on Machine Learning for Risk Analysis in Finance, Insurance and Energy*, University of Barcelona, PhD in Business. Dir: Montserrat Guillen / Jorge M. Uribe.
- Pitarque Méndez, A. (2022) *Essays on Estimation, Prediction and Evaluation of Insurance Risk*, University of Barcelona, PhD in Business. Dir: Montserrat Guillen.
- Pesantez-Narvaez, J. (2021) *Risk Analytics in Econometrics* . PhD in Economics. Dir: M. Alcañiz / Montserrat Guillen.
- Padilla-Barreto, A. (2019) *Cuantificación del riesgo global del asegurado para mejorar la tarificación*, Universitat Politècnica de Catalunya. PhD in Statistics. Industrial PhD. Dir: C. Bolancé / Montserrat Guillen.

- Uribe, J.M. (2018) *Essays on Risk and Uncertainty in Economics and Finance*. University of Barcelona, PhD in Economics. Dir: Helena Chulià / Montserrat Guillen. . **Best thesis award UB**.
- Piulachs, X. (2017) *Joint Modeling of Longitudinal and Time-to-Event Data with Applications in Health Insurance*. University of Barcelona, PhD in Statistics. Dir: Montserrat Guillen / Ramon Alemany.
- Belles-Sampera, J. (2015) Quantitative risk assessment, aggregation functions and capital allocation problems. University of Barcelona, PhD in Business. Dir: Montserrat Guillen / Miguel Santolino.
- Ornelas, A. (2015) La Mortalidad y la longevidad en la Cuantificación del Riesgo Actuarial para la Población de México Dir: Catalina Bolancé / Montserrat Guillen
- Guelman, L. (2015) *Optimal personalized treatment learning models with insurance applications*, University of Barcelona, PhD in Economics.
- Ferri, A. (2012) *Estructuras de dependencia aplicadas a la gestión de riesgos en Solvencia II*. Universitat de Barcelona, PhD in Management. (co-supervisor: Lluís Bermúdez).
- Solé-i-Auró, A. (2009) *The impact of immigration on health, longevity and dependency of the elderly in the Spanish and European population*. Universitat de Barcelona, PhD in Management. (co-supervisor: Eileen M. Crimmins).
- Blay, D. (2009) *Sistemas de cuidados de larga duración para la cobertura y la financiación de las situaciones de dependencia: seguro privado e hipoteca inversa*. Universitat de Barcelona, PhD in Management. **Best thesis award UB**. Awarded by the Catalan Society of Economics with the Insurance Prize in 2011.
- Carrillo, M. (2007) *Una metodología alternativa para la tarificación en el seguro de automóvil en España*. Universitat de Barcelona, PhD in Management.
- Pérez-Marín, A.M. (2006) *Survival methods for the analysis of customer lifetime duration in insurance*, Universitat de Barcelona, PhD in Management (co-supervisor: Jens Perch Nielsen). **Best thesis award UB**.
- Monteverde, M. (2004) *Discapacidades de las personas mayores en España: prevalencia, duraciones e impacto sobre los costes de cuidados de larga duración*, PhD in Economics, Universitat de Barcelona.
- Pujol Jover, M. (2004) *El valor y la fidelidad de los asegurados en el ramo del automóvil*, PhD in Management, Universitat de Barcelona.
- Salsas Forn, P. (1999) *Anàlisi microeconòmica de la insolvència empresarial en la presència de dades atípiques*, PhD in Economics, Universitat de Barcelona.
- Bolancé Losilla, C. (1999) *Estimación núcleo transformada en el análisis del coste de reclamaciones en el seguro del automóvil*, PhD in Management, Universitat de Barcelona.
- Ayuso Gutiérrez, M. (1998) Modelos econométricos de detección del fraude en el seguro del automóvil, PhD in Economics, Universitat de Barcelona. Best thesis award UB.
- Alcañiz Zanón, M. (1996) Modelos de Poisson generalizados con una variable de exposición al riesgo, PhD in Economics, Universitat de Barcelona.

#### External/Third party PhD advisor

- Buch-Kromann, T. (2009) [Industrial PhD programme Denmark] *Large loss models for general insurance*. University of Copenhagen.
- Thuring, F. (2012) [Industrial PhD programme Denmark] *Profitable customer retention in insurance companies*. Cass Business School, City University, London.

### **Master thesis advisor (since 2010)**

- Orteu, A.P. (2023) “Models dif-in-dif en dades telemàtiques d'accidents d'automòbil”. Master in Statistics and Operations Research, UPC-UB.
- Pitarque Méndez, A. (2019) “La regressió quantílica per a les mesures de risc”. Master in Statistics and Operations Research, UPC-UB.
- Fors Soler, A. (2019) “Modelización de la probabilidad de superar análisis bioquímicos de calidad (en la industria farmacéutica)”. Master in Statistics and Operations Research, UPC-UB.
- Pérez Torre, V. (2018) Analysis of PD-LGD correlation effects on the minimum capital requirement. Master in Actuarial Science and Finance, UB.
- Toro, F. (2018) Who pollutes more? Gender differences in consumptions patterns. Master in Economics, UB (co-supervisor: Monica Serrano)
- Cartanya, A. (2017) Esdeveniments recurrents, predicció i cost-benefici de la publicitat a televisió. Master in Statistics and Operations Research, UPC-UB.
- Vicente, Z. (2014) Efectos del diseño muestral en la Encuesta de Salud de Cataluña. Master in Statistics and Operations Research, UPC-UB.
- Schulze Darup, A. (2014) Consumer Preferences for Electric Vehicles – Evidence from Germany. Master in Economics, UB.
- Vicente, Z. (2014) Efectos del diseño muestral en la Encuesta de Salud de Cataluña. Master in Statistics and Operations Research, UPC-UB.
- Urbina, J. A. (2013) Quantifying Optimal Capital Allocation Principles based on Risk Measures. Master in Statistics and Operations Research, UPC-UB.
- Casanovas, J. (2012) [Measuring Solvency in underwriting risk for credit insurance] La medición de la solvencia del riesgo de suscripción en el ramo de crédito. Master in Business, Finance and Insurance, UB.
- Catot, N. (2011) [Comparison and implementation of different quantitative approaches to credit risk] Comparación e implementación de diferentes aproximaciones cuantitativas al riesgo de crédito. Master in Business, Finance and Insurance, UB. Best thesis award by VidaCaixa.
- Ornelas, A. (2011) [Analysis and pricing of group insurance] Análisis y Tarificación en Seguros de Salud Grupo. Master in Statistics and Operations Research, UB/UPC.
- Malo, N. (2010) [A practical application of methods to quantify operational risk] Aplicación práctica de metodologías para la cuantificación del Riesgo Operacional. Master in Statistics and Operations Research, UB/UPC.

### **Detail of grants received (only refereed R+D projects since 2017):**

- 2023-2025 “PROYECTO ESTRATÉGICO DE CIBERSEGURIDAD EN ESPAÑA SOBRE ANÁLISIS DE RIESGOS” C090/03. Funded EU Next Generation. INCIBE-UB. Director: Montserrat Guillen Estany & David Moriña Soler (16 members).
- 2023-2025 “Climate change: Risk management and insurance for a sustainable economy” 2023 CLIMA00012 Call for projects to finance research projects for mitigation and adaptation to climate change 2023. Director: Helena Chuliá Soler (16 members).
- 2023-2024 Ministerio de Ciencia e Innovación. Agencia Estatal de Investigación. Proyectos estratégicos orientados a la transición ecológica y a la transición digital “Analítica de datos en seguros: métodos e implicaciones para productos basados en el uso” TED2021-130187B-I00. Director: Montserrat Guillen Estany (7 members).
- 2020-2023 Ministerio de Ciencia e Innovación. Agencia Estatal de Investigación. Programas estatales de generación de conocimiento y fortalecimiento científico y tecnológico del

- sistema de I+D+I “Modelos Predictivos para el riesgo en Seguros y Finanzas” PID2019-105986GB-C21. Director: Montserrat Guillen Estany (16 members).
- 2019-2021 Fundación BBVA. Ayudas a la investigación en Big Data 2018. “Risk Analytics: turning extremes into core knowledge” Director: Montserrat Guillen Estany (5 members).
- 2017-2019 Ministerio de Economía y Competitividad. Programa Estatal de Investigación Científica y Técnica de Excelencia, Subprograma Estatal de Generación de Conocimiento, modalidad 1, Proyectos de I+D. “Cuantificación y análisis de riesgos” ECO2016-76203-C2-2-P Director: Montserrat Guillen Estany (10 members).

## Participation in meetings

### a) Keynote speaker (2010-)

- Guillen, M. (2024) “The future of long-term saving: the research perspective” Innovative Pathways: Pensions, Fintech, and the Evolving Landscape. Bayes Business School, co-organized with Universities Superannuation Scheme Limited (USS). London (November 28).
- Guillen, M. (2024) “Telematics Insights on Time vs. Distance in Motor Insurance Pricing” Plenary speaker at the JOCO-2024. Joint Conference of the Sections of the International Actuarial Association. Brussels, Belgium (September 25).
- Guillen, M. (2024) “Telematics driving scores, real-time pricing and exposure to risk” St. Gallen Actuarial Seminar, Switzerland (February 29).
- Guillen, M. (2023) “Motor insurance with telematics driving data” ARC Actuarial Research Conference, Drake University, Des Moines, USA (July 31-August 2)
- Guillen, M. (2023) “Pricing motor insurance with telematics data” Chaire PARI, Paris France (November 15).
- Guillen, M. (2022) “Motor insurance with telematics driving data” Riskday ETH Zurich, (September 16)
- Guillen, M. (2022) “The pensions of a *bon-vivant* are called tontines” Meeting of the Royal Academy of Doctors, Girona (May 13-15)
- Guillen, M. (2021) “Big data en el sector seguros: de materia prima a razón de ser” EHU Universidad del País Vasco (Octubre 28)
- Guillen, M. (2021) “Big data en el sector seguros: de materia prima a razón de ser” Universitat de Valencia (Novembre 10)
- Guillen, M. (2021) “Big data en el sector seguros: de materia prima a razón de ser” CUNEF, Madrid (MARzo, 3)
- Guillen, M. (2021) “Near-misses for telematics pricing in automobile insurance” Heriot-Watt University (Decembre 1)
- Guillen, M. (2021) “Risk analysis of driving data with near-miss ratemaking” University of Connecticut Seminar series (April 5)
- Guillen, M. (2020) “Using Telematics in Motor Insurance. Can telematics data identify risky drivers?” ARGenesis/LSE/online London School of Economics, (October 19)
- Guillen, M. (2020) “Conditional tail expectation regression models for vehicle excess speed in driving data” OICA, Lyon-online <https://oica.univ-lyon1.fr/program/> (April 28)
- Guillen, M. (2020) “Can telematics Data Identify Risky Drivers?” Data Science Seminar XEurope. (September 16). <https://www.youtube.com/watch?v=DmBEdsoT7Go>
- Guillen, M. (2020) “Modelos predictivos del riesgo y aplicaciones a los seguros” Funcas, Madrid, on-line. (October 8) <https://www.youtube.com/watch?v=PwbkUPe3hfo>
- Guillen, M. (2019) “How will telematics and driving data change ratemaking in automobile insurance?” Ulm University. Mathematics and Actuarial science Seminar (December 5)

- Guillen, M. (2019) “Driving data for automobile insurance: will telematics change ratemaking?” SAA Annual Meeting 2019. Lucerne (Switzerland) (August 30).
- Guillen, M. (2019) “Driving data for automobile insurance: will telematics change ratemaking?” EM-Lyon. Lyon (France) (March 7).
- Guillen, M. (2019) “Driving Data: telematics to improve insurance rates” SFRA 2019 Colloquium and International Workshop on Machine Learning for Risk and Insurance, Scottish Financial Risk Academy, International Centre for Mathematical Sciences, Edinburgh (United Kingdom) (February 4).
- Guillen, M. (2018) “Is motor insurance ratemaking going to change with telematics and semi-autonomous vehicles?” Consortium for Data Analytics in Risk, Center for Risk Management Research, University of California, Berkeley (USA) (August 28)
- Guillen, M. (2018) “Driving data: from Poisson to risk regression models” Workshop Data Science, Instituto de Matemáticas de la Universidad de Sevilla, Sevilla (September 13-14).
- Guillen, M. (2018) “Data Science in Insurance”, Graduate School of Global Insurance and Pension's, SKKU, Seoul (Korea) (October, 13).
- Guillen, M. (2018) “Uncertainty advantage: Insurers should face technological innovations” Modern applied statistics: A seminar in the honour of Erik Bølviken at his 70<sup>th</sup> birthday. University of Oslo, Oslo (Norway) (June 8).
- Guillen, M. (2018) “Uncertainty advantage: the insurance industry faces technological innovation” University of Tel-Aviv (Israel) in the meeting of the Spanish Real Academia de Ciencias Económicas y Financieras, under the chair of Prof. Dr. Jean Askenasyj, Tel-Aviv (Israel) (May 16).
- Guillen, M. (2017) “Big mistakes of data analytics when applied to risk and insurance” Actuarial Science Seminar, National Bank of Belgium, Brussels (Belgium) [Plenary session] (Sept. 14)
- Guillen, M. (2017) “Per què les grans empreses necessiten un Chief Data & Analytics Officer?” Estadística i Data Science: l'evolució o l'extinció dels estadístics. Societat Catalana d'Estadística, Barcelona, (June 1).
- Guillen, M. (2016) “Fundamentals of risk measurement and aggregation for insurance applications” University of Andorra. 13<sup>th</sup> International Conference on Modeling Decisions for Artificial Intelligence. (September, 19-21)- [Plenary session] (joint paper with C. Bolancé and M. Santolino).
- Guillen, M. (2016) “How much risk is too much?” Science and Society Lecture Series. University of Liverpool (March, 15)
- Guillen, M., Guelman, L.; Pérez-Marín, A.M. (2015) “Uplift predictive modeling in pricing, retention and cross selling of insurance policies” Actuarial and Financial Mathematics Conferences. Brussels (February, 5-6).[Plenary session].
- Guillen, M. (2015) “Pricing and marketing insurance in the digital era” Plenary session “The 19th International Congress on Insurance: Mathematics and Economics – IME 2015”. University of Liverpool, United Kingdom, (June 24-26). [Plenary session].
- Guillen, M. and Guelman, L. (2014) “New trends in Predictive Modelling: the Success Story of Uplift Models” R in insurance conference. London. (July, 14).
- Guillen, M. (2010) “Envelliment, dependència i previsió de la despesa individual” *Jornada d'Atenció a la Dependència: qualitat dels serveis, un repte per a la sostenibilitat*, organized by La Unió at auditori de l'IDEC, Universitat Pompeu Fabra, Barcelona (May, 19).
- Guillen, M. (2010) “El cost de la dependència” Curs sobre el cost de la salut. “Els juliols” Universitat de Barcelona. (July, 16).

**b) International Congresses and Symposia (since 2017-, local meetings omitted)**

- Ladino, A., Pellicé, M., Costafreda, M., Martínez, M., Parra, A., Guillen, M., Ayuso, M. and Masanes, F. (2023) “Comparación de las Características Clínicas de los Pacientes Fallecidos en Sala Convencional Vs una Unidad de Cuidados Intensivos” 44 Congreso Nacional de la Sociedad Española de Medicina Interna (Novembre 15-17) Valencia.
- Bagkavos, D., Nielsen, J.P and Guillen, M. (2023) “Nonparametric conditional survival function estimation with plug-in bandwidth and robust model selection” 35th Panhellenic and **1st International Statistics Conference Greek Statistical Institute** (May 25-26).
- Bagkavos, D., Nielsen, J.P and Guillen, M. (2023) “Robust and flexible model selection for multivariate local linear regression” **CFE-CMS 16th International Conference of the ERCIM WG on Computational and Methodological Statistics** HTW Berlin (December 16-18)
- Guillen, M., Pérez-Marin, A.M. & Vidal-Llana, J.J. (2023) “Non-crossing neural network quantile regression estimation for driving data with telematics” Washington, DC (August 6-9), <https://www.aria.org/>
- Vidal-Llana, J.J. & Guillen, M. (2023) “Non-Crossing Neural Network Quantile Regression Estimation for Driving Data with Telematics.” European Actuarial Day (June 27). <https://www.actuarial-events.com/event/454d1d84-f301-494e-bfc1-d781b24ba1e2/summary>
- Vidal-Llana, J.J. & Guillen, M. (2023) “Non-crossing neural network regression estimation for driving data with Telematics” Insurance Data Science, City University, London (June 15-16 ) [https://insurancedatascience.org/project/2023\\_london/](https://insurancedatascience.org/project/2023_london/)
- Vidal-Llana, X., Salort, C. Coia, V. & Guillen M. (2022) “Non-Crossing Dual Neural Network: Joint Value at Risk and Conditional Tail Expectation regression with non-crossing conditions” IME, Heriot-Watt University, Edinburg (July 4-7). <https://www.icms.org.uk/events/2023/IME2023>
- Fernández-Fontelo. A., Guillen, M. & Moriña, D. (2023) “Measuring the impact of Covid-pandemic on health insurance associated services demand” SEIO 2023. Elche (November 7-10).
- Vidal-Llana, J.J. & Guillen, M. (2023) “Non-crossing neural network quantile regression estimation for driving data with telematics” SEIO 2023. Elche (November 7-10).
- Fernández-Fontelo. A., Puig, P., Guillen, M. & Moriña, D. (2022) “Modelling the impact of Covid-19 pandemics on health insurance associated services demand” RISK2022 8th Workshop on Risk Management and Insurance Research. Barcelona (October 20-21).
- Sarabia, J.M. & Guillen, M. (2022) “Aggregation of Dependent Risks: A Survey” RISK2022 8th Workshop on Risk Management and Insurance Research. Barcelona (October 20-21).
- Vidal-Llana, X., Coia, V. & Guillen M. (2022) “Alternative scoring function specifications for estimating Value at Risk and Conditional Tail Expectation” RISK2022 8th Workshop on Risk Management and Insurance Research. Barcelona (October 20-21).
- Vidal-Llana, X., Coia, V. & Guillen M. (2022) “Cross-Sectional Quantile Regression for Estimating Conditional VaR During Periods of High Volatility” 25<sup>th</sup> International Congress on Insurance, Mathematics and Economics Sydney (Australia) (July 12-15).
- Vidal-Llana, X. & Guillen, M. (2022) “Estimation of conditional value at risk of returns during high volatility periods using cross-sectional quantile regression” EFMA 2022. Rome (Italy) (June 29-July 2).
- Vidal-Llana, X., Uribe, J.M. & Guillen, M. (2022) “External Spillover Index and Its Relation with GDP per Capita on European Countries” MAF 2022: Mathematical and Statistical Methods for Actuarial Sciences and Finance. Salerno (Italy) (April 20-22).
- Pesantez-Narvaez, J., Guillen, M., & Alcañiz, M. (2022) “A hybrid boosting-based machine for rare events in cross-sectional studies” Congreso de Investigación Aplicada a Ciencia de Datos – II Congreso Nacional de R Users Group. Quito (January, 24-28).

- Guillen, M., Nielsen, J.P. & Pérez-Marin; A.M. (2021) “Number of claims and number of near-misses for telematics pricing in automobile insurance” American Risk and Insurance Association Annual Meeting (August 4).
- Guillen, M. (2021) “Will telematics change ratemaking models in automobile insurance?” Insurance, Mathematics and Economics. invited session on Insurance Technology: Telematics Data Analysis (July 8)
- Guillen, M. (2021) “Number of claims and number of near-misses for telematics pricing in automobile insurance” 3<sup>rd</sup> Insurance Data Science Conference. London/online, (June, 18)
- Pesantez-Narvaez, J., Arroyo-Cañada, F.J., Argila-Irurita, A.M., Solé-Moro, M.L., & Guillen, M. (2020) “Monitoring web-based evaluation of online reputation in Barcelona” Congress on Intelligent Systems. India, September 5-6.
- Pesantez-Narvaez, J., Guillen, M., & Alcañiz, M. (2020) “Modelling Subjective Happiness with a Survey Poisson Model and XGBoost using an Economic Security Approach” Congress on Intelligent Systems. India, September 5-6.
- Pesantez-Narvaez, J., Guillen, M., & Alcañiz, A. (2020) “Modelling Subjective Happiness with a Survey Poisson Model and XGBoost using an Economic Security Approach” 4th International Scientific Conference on IT, Tourism, Economics, Management and Agriculture (ITEMA). Belgrade, October 8.
- Pesantez-Narvaez, J., Guillen, M., & Alcañiz, M. (2020) “A Synthetic Penalized Logitboost to Model Mortgage Lending with Imbalanced Data” The Third International Conference on Data Science & Social Research. Bari, December 10-11.
- Pitarque, A. Guillen, M. (2020) "An algorithm to fit conditional tail expectation regression models for vehicle excess speed in driving data" 3rd International Conference on Advanced Research Methods and Analytics (CARMA 2020), Valencia, July 8-9.
- Pitarque, A., Guillen, M. (2020) "Joint Generalized Quantile and Conditional Tail Expectation Regression for Insurance Risk Analysis" 55th Actuarial Research Conference (ARC 2020), Nebraksa, August 10-12.
- Sun, S.; Bi, J.; Guillen, M.; Pérez-Marín, AM. (2020). "Regression scores to identify risky drivers from braking pulses". CARMA 2020 - 3rd International Conference on Advanced Research Methods and Analytics. Valencia, Spain. July 8-9.
- Pesántez-Narváez, J., Alcañiz, M. and Guillén, M. (2019) “Is XGBoost better than logistic regression to predict claiming in motor insurance with telematics data?” XXVIII Congreso Nacional de Estadística e Investigación Operativa SEIO) y XII Jornadas de Estadística Pública. Alcoy, September 3-6.
- Pesantez-Narvaez, J. and Guillen, M. (2019) “Penalized logistic regression to improve predictive capacity in survey” V Conferencia de Matemáticos Ecuatorianos en Paris V-Conmate-P. Paris, April 18-19.
- Pesantez-Narvaez, J., Guillen, M. (2019) “Migration vs Cooperatives: Two paths towards economic security in Ecuador?” 34th National Conference for Labour Economics. Novara, September 12-13.
- Sarabia, J.M., Guillen, M., Gómez-Deniz, E., Prieto, F. and Jorda, V. (2019) “On three background risk models with semiheavy tailed marginals” 23rd International Congress on Insurance: Mathematics and Economics (IME), Munich, July 10-12.
- Denuit, M., Guillen, M., Truffin, J. (2019) “Multivariate credibility modeling for usage-based motor insurance pricing with behavioral data” 23rd International Congress on Insurance: Mathematics and Economics (IME), Munich, July 10-12.
- Guillen, M. (2018) “The transition towards semi-autonomous vehicle insurance: the contribution of usage-based data” International Congress of Actuaries, Berlin (Germany), June 4-8, 2018. (co-author A.M. Pérez-Marín) **Best paper award in Non-Life Section.**
- Pesantez, J. and Guillen, M. (2018) “Weighted logistic regression to improve predictive performance in insurance” MS’18 AMSE Girona, Girona, June 28-29, 2018.

- Bolancé, C., Guillen, M., Frees, E. and Valdez, E. (2018) “Modelización conjunta basada en cópula gaussiana para calcular el precio de varios ramos de seguros” Congreso Internacional de la SEIO, Oviedo, May 29-June 1, 2018.
- Guillen, M and Pérez-Marín, A.M. (2018) “The Contribution of Usage-based Data Analytics to benchmark Semi-autonomous Vehicle Insurance” MAF, eighth international conference on mathematical and statistical methods for actuarial sciences and finance. Madrid, April 4-6, 2018.
- Bolancé, C, Cao, R. and Guillen, M. (2018) “Estimación maximo-verosímil condicionada del modelo lineal generalizado con función de ligadura no paramétrica” RISK 2018, 7th Workshop on Risk Management and Insurance, Santander, April 25-27, 2018.
- Sarabia J.M., Guillen, M., Prieto, F. and Jorda, V. (2018) “Modelling dependent risks with heavy-tail marginals” RISK 2018, 7th Workshop on Risk Management and Insurance, Santander, April 25-27, 2018.
- Guillen, M. (2017) “Data Science and the Natural Evolution of Automobile Insurance” Big Data in Applied Economics, UAB, Bellaterra (Barcelona), October, 20, 2017.
- Guillen, M. (2017) “Solvency Requirement in a Unisex Stochastic Mortality Model” (joint with Elena Vigna and An Chen) International Actuarial Association Life Section Colloquium “Long-Term Saving in an Ageing World”, Barcelona, October 22-24, 2017.
- Guillen, M. (2017) ( “A Non-Homogeneous Semi-Markov Approach for the Calculation of the Balance Sheet of a Health Fund”( joint with Guglielmo D’Amico, Fulvio Gismondi, Jacques Janssen, Raimondo Manca and Ernesto Volpe di Prignano) International Actuarial Association Life Section Colloquium “Long-Term Saving in an Ageing World”, Barcelona, October 22-24, 2017.
- Arroyo-Cañada, F.J., Pesantez, J., Argila A.M., Solé, M . and Guillen, M. (2017) “Visualizing web-based evaluation of hotel reputation in Barcelona” 2nd On/Off International Conference in Marketing Decision Making. Barcelona, Octubre 5, 2017.
- Piulachs, X., Rizopoulos, D., Andrinopoulou, E.R. and Guillen M. (2017) “Simultaneous modeling of counts with excess zeroes and left-truncated survival data with time-varying effects ” XVI Spanish Biometrics Conference – CEB2017, Sevilla, Septeber 14-16, 2017.
- Guillen ,M. (2017) “Telematics and the natural evolution of pricing in motor insurance” Workshop on « Data science in Finance and Insurance » Louvain-la-Neuve (Belgium), September 15, 2017.
- Padilla-Barreto, A., Bolancé, M. and Guillen, M. (2017) “Joint modelling for customer lapses in the insurance sector” 21<sup>st</sup> Annual APRIA conference, Poznan (Poland), July 31, August 2, 2017.
- Bermúdez, L., Guillen, M. and Karlis, D. (2017) “A bivariate INAR(1) regression model for insurance claim counts” 21st International Congress on Insurance: Mathematics and Economics – IME 2017 Vienna (Austria), July 3–5, 2017.
- Frees, E.W., Valdez, E., Bolancé, C. and Guillen, M. (2017) “Joint Modeling of Customer Loyalty and Risk in Personal Insurance” 21st International Congress on Insurance: Mathematics and Economics – IME 2017 Vienna (Austria), July 3–5, 2017.
- Aleman, R.; Ayuso, M.; Guillen, M. (2017) “Impact of road traffic injuries on disability rates and long-term care costs in Spain”. IV Workshop on the evaluation of public policies for sustainability long-term care in Spain. Albacete (Spain), June 29-30.
- Ayuso, M.; Guillen, M.; Valero, D. (2017) “What can determine the decisions in the management of savings after retirement?”. VI Congreso Internacional Dependencia y Calidad de Vida. Madrid (Spain), May 23-24.
- Bermúdez, L., Guillen, M. and Karlis, D. (2017) “A bivariate INAR(1) regression model for insurance claim counts” Recent Developments in Dependence Modelling with Applications in Finance and Insurance - Fourth Edition, Aegina (Greece), 22-23 May.
- Guillen, M. (2017) “Aggregating and disaggregating risks and the role of the tail” [Plenary session] (joint paper with C. Bolancé and M. Santolino). Recent Developments in

Dependence Modelling with Applications in Finance and Insurance - Fourth Edition, Aegina (Greece), May, 21-23.

## Awards

- 2022 **Best Teacher's award in Statistics**. University of Barcelona & Technical University of Catalonia.
- 2023 **Best group in statistical teaching innovation** in Catalonia ANDES (Data Analysis in Economics and Social Sciences).
- 2023 **Distinction for excellence in teaching statistics**, Group ANDES (Data Analysis in Economics and Social Sciences).
- Bob Alting von Geusau Prize sponsored by the AFIR-ERM Section of the IAA for "Implementing Individual Savings Decisions for Retirement with Bounds on Wealth" published in the ASTIN Bulletin (Volume 48, Issue 1). AFIR-ERM colloquium in Paris from 10 to 14 May 2020
- International Congress of Actuaries, best paper award, 2018.
- SCOR prize to best research, 2016.
- Edad&Vida prize to managing savings after retirement, 2016
- ICREA Academia distinction 2011 and 2019
- Prize Fundación Edad&Vida Higinio Ranventós to "Strategies for Managing Savings after Retirement" 2016.
- Prize to the best Master Thesis supervision. VidaCaixa, 2011.
- Prize to the Best Paper in Insurance presented at RISK, 2011.
- Premio Internacional de Seguros Julio Castelo Matrán. Fundación MAPFRE, 2004.
- Best paper published by the American Risk and Insurance Association. Casualty Actuarial Society, 2003.
- Premi Ferran Armengol i Tubau de la Societat Catalana d'Economia. Institut d'Estudis Catalans, 2002.
- Premi memorial Àngels Jiménez de Seguret Viària. Ajuntament de Barcelona, 1996.

## Other activities

- Member of PhD thesis committees (LSE., UQÀM- Québec, U. Barcelona, U. Autònoma de Madrid, City University, U. Catholique de Louvain, U. Extremadura, U. Las Palmas de Gran Canaria, U. Paris-Nanterre, Heriot-Watt University, Universidad Complutense de Madrid, University of Texas at Austin, Universidad Politècnica de Catalunya, Universidad Autònoma de Barcelona, U. Valencia, U. Cantabria, U Deusto).
- General coordinator of AGAUR – Social Sciences 2019-2024.
- Coordinator of evaluations in Agencia Española de Investigación. Strategic Lines, Risk, 2021. Member of ANECA-Academia accreditation committee. 2024-
- General Coordinator of Doctoral Programmes, Faculty of Economics (University of Barcelona) 2001-2004.
- Chief of Studies of Statistics, University of Barcelona, 1996-2002.
- Member of **American Statistical Association (live member 55+, started in 1987)**, American Risk and Insurance Association, Societat Catalana d'Estadística, Societat Catalana de Matemàtiques and International Actuarial Association (sections ASTIN and LIFE), Econometric Society (1987-1995).
- Honorary Member of the Catalan College of Actuaries.

Member of the Royal European Academy of Doctors and Numerary Academician of the Spanish Royal Academy of Economics and Finance (Real Academia de Ciencias Económicas y Financieras). Vice.secretary general of RACEF.

Appointed member of the **Statistical Learning in Actuarial Applications** Working Party, **Institute and Faculty of Actuaries**, IFoA Data Science Research Section. United Kingdom, 2021-

### **Languages**

Spanish (native), Catalan (native), English (proficiency), French (proficiency), Russian (intermediate level) and German (basic level).