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## Education

Universidade do Algarve
Agregação, 2005
University of Manchester, UK
Ph.D. in Econometrics, 1995-1998
University of Manchester, UK
M.A. in Economics and Econometrics (*Distinction*), 1994-1995
Universidade do Algarve
Licenciatura in Business Management (*Summa cum Laude*), 1988-1993

## Professional experience

Banco de Portugal
*Researcher,* Economics and Research Department, since 2008

## Teaching experience

Universidade Nova de Lisboa
*Full Professor,* Nova School of Business and Economics, since 2008

## Research interests

Time Series Econometrics; Financial Econometrics; Econometric Theory.

### Refereed publications

”Quantile regression for long memory testing: a case of realized volatility” (with U. Hassler and A. Rubia), *Journal of Financial Econometrics* (forthcoming).

”A Mixed Frequency Approach to Forecast Private Consumption with ATM/POS Data” (with C. Duarte and A. Rua), *International Journal of Forecasting* (forthcoming).

”Monitoring tourism flows and destination management: Empirical evidence for Portugal” (with J. Andraz), *Tourism Management*, Vol. 56, 2016, pp.1-7.

”Tourism growth and regional resilience: The ‘beach disease’ and the consequences of the global crisis of 2007”, (with J. Romão and J. Guerreiro), *Tourism Economics* Vol. 22(4), 2016, pp. 699–714.

”On the Behavior of Phillips-Perron Tests in the Presence of Persistent Cycles”, *(with T.B. Castro and A.M.R. Taylor), Oxford Bulletin of Economics and Statistics*, Vol. 77(4), 2015, pp. 495-511.

“The impact of wind generation on the mean and volatility of electricity prices in Portugal” (with Pereira, J.P.), IEEE Xplore Digitaql Library, 2015, (DOI: 10.1109/EEM.2015.7216714).

“Opportunities, Emerging Features, and Trends in Electronic Distribution in Tourism, International” (with C.M.Q. Ramos and J.M.F. Rodrigues), *Journal of Information Systems and Social Change*, Vol. 6(4), 2015, pp.17-33.

”Modelling and forecasting interval time series with threshold models” (with N. Salish), *Advances in Data Analysis and Classification, Vol.* 9(1), 2015, pp. 41-57.

”Tourist spending dynamics in Algarve. A cross-sectional analysis” (with J. Serra and A. Correia), Tourism Economics Vol. 21, 2015.

“Yielding tourists’ preferences” (with J. Serra and A. Correia), in *Marketing Places and Spaces. Advances in Culture, Tourism and Hospitality Research*, Vol. 10, 2015, pp.281-292. Emerald Group Publishing.

”Persistence in the banking industry: Fractional integration and breaks in memory” (with U. Hassler and A. Rubia), *Journal of Empirical Finance* Vol.29, 2014, pp.95–112.

”Characterizing economic growth paths based on new structural change tests” (with N. Sobreira and L.C. Nunes), *Economic Inquiry* 52 (2), 2014, pp.845–861.

“A comparative analysis of tourism destination demand in Portugal” (with J. Serra and A. Correia), *Journal of Destination Marketing and Management* Vol.2(4), 2014, pp.221-227.

”Heterogeneity in Tourism Motivations: The Case of the Algarve” (with J. Serra and A. Correia), in *Tourists’ Behaviors and Evaluations. Advances in Culture, Tourism and Hospitality Research*, Volume 9, 85-95. Emerald Group Publishing Limited, 2014.

”Testing for persistence change in fractionally integrated models: an application to world inflation rates” (with L. Martins), *Computational Statistics and Data Analysis,* 76, 2014, pp.502–522.

“How to create indices for bank branch financial performance measurement using MCDA techniques: an illustrative example” (with F.A. Ferreira, R.W. Spahr and S.P. Santos), *Journal of Business Economics and Management*, Vol.15(4), 2014, pp.708-728.

“Evaluating retail banking service quality and convenience with MCDA techniques: a case study at the bank branch level” (with F.A. Ferreira and S.P. Santos), *Journal of Business Economics and Management,* Vol.15(1), 2014, pp.1-21.

”Recursive adjustment, unit root tests and structural breaks”, *Journal of Time Series Analysis*, Vol.34(1), 2013, pp.62-82.

”The impact of persistent cycles on zero frequency unit root tests” (with T.B. Castro and A.M.R. Taylor), *Econometric Theory*, Vol.29, 2013, pp.1289-1313.

“Determinants of the Eonia Spread and Financial Crises” (with C. Soares), *The Manchester School*, Vol. 81(S3), 2013, pp.82–110.

”Finite sample performance of frequency and time domain tests for seasonal fractional integration” (with A. Rubia and J.V. Azevedo), *Journal of Statistical Computation and Simulation*, Vol. 83(7), 2013, pp.1373–1384,.

”Research note: the importance of online tourism demand” (with C.M.Q. Ramos), *Tourism Economics* Vol.19(6), 2013, pp.1443-1447.

”Regional tourism development: culture, nature, life cycle and attractiveness” (with J. Romão and J. Guerreiro), *Current Issues in Tourism*, Vol.16(6), 2013, pp.517-534.

“The importance of ICT for tourism demand: A dynamic panel data analysis” (with C.M.Q. Ramos), in *Quantitative Methods in Tourism Economics*, Chapter: 6, Publisher: Physica-Verlag HD, Editors: A. Matias, P. Nijkamp, M. Sarmento, 2013, pp.97-111.

”Modelação da procura turística em Portugal: A metodologia Box-Jenkins, os modelos Naïf e o modelo de alisamento exponencial” (with A.C.M. Daniel), *Revista Turismo e Desenvolvimento*, Vol.19, 2013, pp.41-52.

”The flexible Fourier form and local generalised least squares de-trended unit root tests” (with A.M.R. Taylor), *Oxford Bulletin of Economics and Statistics*, Vol.74(5), 2012, pp.736-759.

”Assessing the impact of shocks on international tourism demand for Portugal” (with A.C.M. Daniel), *Tourism Economics,* Vol.18(3), 2012, pp.617-634.

"A multiple criteria framework to evaluate bank branch potential attractiveness" (with F.A. Ferreira, R.W. Spahr and S.P. Santos), International Journal of Strategic Property Management, Vol.16(3), 2012, pp.254-276.

"The Effect of Additive Outliers and Measurement Errors when Testing for Structural Breaks in Variance" (with A. Rubia), *Oxford Bulletin of Economics and Statistics*, Vol. 73(4), 2011, pp.449-468.

"Threshold effects in credit risk and stress scenarios" (with T.M.T. Nunes), *International Journal of Finance & Economics*, 16(4), 2011, pp. 393-407.

"On LM-Type Tests for Seasonal Unit Roots in the Presence of a Break in Trend" (with L.C. Nunes), *Journal of Time Series Analysis*, Vol.32(2), 2010, pp.108-134.

"Adding Value to Bank Branch Performance Evaluation Using Cognitive Maps and MCDA: A Case Study" (with F.A.F. Ferreira and S.P. Santos), *Journal of the Operations Research Society*, 62, 2011, pp.1320-1333.

"From traditional operational research to multiple criteria decision analysis: basic ideas on an evolving field" (with F.A.F. Ferreira and S.P. Santos), *Problems and Perspectives in Management*, Vol.9(3), 2011, pp.114-121.

"What Causes Short and Long-run Economic Growth in Portugal: Exports or Inward FDI?" (with J. Andraz), *Journal of Economic Studies* Vol. 37(3-4), 2010, pp.267-287.

"Knowledge Production in European Regions: The Impact of Regional Strategies and Regionalization of Innovation" (with H. Pinto), *European Planning Studies* Vol.18, 2010, pp.1729-1748.

"Events that Marked Tourism in Portugal" (with J. Andraz), *Applied Economic Letters*, Vol. 17, 2010, pp.761-766.

"Persistence Change in Tourism Data" (with J. Andraz), *Tourism Economics* Vol.16(2), 2010, pp.303-319.

"Calendar effects in daily ATM withdrawals" (with P. Esteves), *Economics Bulletin*, 2010.

"Volatility Breaks in Tourism Demand Time Series" (with A. Daniel), in 'Advances in Tourism Economics: Impact Analysis', Springer, Ed. A. Matias and P. Nijkamp, 2010.

"Panel Seasonal Unit Root Tests: An Application to Tourism" (with N. Salish), in 'Advances in Tourism Economics: Impact Analysis', Springer, Ed. A. Matias and P. Nijkamp, 2010.

”Testing for the General Fractional Integration Hypothesis in the Time Domain” (with U. Hassler and A. Rubia), *Econometric Theory* Vol.25, 2009, pp.1793-1828.

”Modelling and Forecasting Tourism Growth Cycle” (with J.L.M. Andraz and P.M.D.C.B. Gouveia), *Tourism Economics* Vol. 15(2), 2009, pp.323-338.

”O Turismo em Portugal: Evolução Histórica, Caracterização e Perspectivas” (with A.C.M. Daniel), in Matias, A. and Sardinha, R. (eds.), *Avanços em Economia e Gestão do Turismo: Novas Tendências, Sustentabilidade e Desenvolvimento Regional*, Lisboa, Editora Piaget, 2009, pp.61-78.

“Sectoral Dynamics in the Algarve” (with J. M.Andraz). Book chapter in *Estudo de Caracterização da Estrutura Económica do Algarve*, Nera Ed., 2008.

”A Tourism Research Agenda for Portugal” (with J.A. Silva, J. Mendes and L.N. Pereira), *International Journal of Tourism Research,* Vol.12, 2008, pp.90-101.

”Unit Root and Cointegration Testing: Guest Editors’ Introduction” (with Luetkepohl, H.L.), *Econometric Theory* Vol. 24 (1), pp.1-6.

”A Note on Testing for Nonstationarity in Autoregressive Processes with Level Dependent Conditional Heteroskedasticity” (with A. Rubia), *Statistical Papers* Vol.49, 2008, pp.581-593.

”Comparing Forecasts of Industrial Production” (with P.M.D.C. Gouveia and D.R. Osborn). Chapter of Book edited by EUROSTAT, forthcoming.

”A Test for Seasonal Fractional Integration” (with U. Hassler and A. Rubia), Proceedings of the XVIII International Conference on Computational Statistics, Springer Verlag (eds), 2008.

”Sistemas de Informação para apoio ao Turismo, o caso do Dynamic Packaging” (with C. Ramos and F.Perna), RISTI – Revista Ibérica de Sistemas e Tecnologias de Informação Vol.2(12), 2008, pp. 28 - 39.

”O Desempenho de Testes de Raízes Unitárias em Processos Não-lineares” (with P.M.D.C. Gouveia), in *Actas do XV Congresso Anual da Sociedade Portuguesa de Estatística*, Edições SPE, 2008.

”Testing for causality in variance under nonstationarity in variance” (with A. Rubia), *Economics Letters* Vol. 97, 2007, pp.133-137.

”Efficient Seasonal Unit Root Tests” (with A.M.R. Taylor), *Journal of Econometrics* Vol. 141, 2007, pp.548 -573.

”Modelling and Forecasting Tourism Demand in Portugal: Past, Present and Future” (with A.C.M. Daniel), *Revista Turismo e Desenvolvimento* Vol. 7, 2007, pp. 173-182.

”Desempenho de Testes de Raízes Unitárias em Modelos SETAR com Enviesamento do Parâmetro de Desfasamento” (with P.M.D.C. Gouveia), in Ferrão, M.E., C. Nunes and C.A. Braumann (eds) *Estatística Ciência Interdisciplinar* - Actas do XIV Congresso Anual da Sociedade Portuguesa de Estatística, Edições SPE, 2007.

”Forecasting Seasonal Time Series” (with E. Ghysels and D.R. Osborn), *Handbook of Economic Forecasting*, 2006, Chapter 13, Ed. G. Elliott, C.W.J. Granger and A. Timmermann, Elsevier B.V.

”Properties of recursive trend-adjusted unit root tests”, *Economics Letters* 91, 2006, pp.413-419.

”Aplicação de Séries Temporais na Serie Teor de Humidade da Area de Fundição da Industria FUNDIMISA” (with S. Russo and M.E. Camargo), *Gestão Insdustrial* Vol.2(1), 2006, pp.36-46.

”The performance of unit root tests under level-dependent heteroskedasticity” (with A. Rubia), *Economics Letters* Vol.89, 2005, pp.262-268.

”A sequential approach to testing seasonal unit roots in high frequency data” (with P.H. Franses), *Journal of Applied Statistics*,Vol.32, 2005, pp. 555-569.

”Dating and synchronizing tourism growth cycles” (with P.M.D.C. Gouveia), *Tourism Economics* Vol. 11, 2005, pp.501-516.

”Unit root Tests for Panel Data - a Survey and an Application” (with A.P. Barreira), in *Estudos II*, Ed. Faculdade de Economia, Universidade do Algarve, 2005, pp.665-685.

”Propriedades Empiricas de Séries do Turismo” (with P.M.D.C. Gouveia), in *Estudos II*, Ed. Faculdade de Economia, Universidade do Algarve, 2005, pp.771-782.

”Asymptotic distributions for regression-based seasonal unit root test statistics in a near-integrated model” (with A.M.R. Taylor), *Econometric Theory* 20, 2004, pp.645-670.

”Alternative Estimators and Unit Root Tests for Seasonal Autoregressive Processes” (with A.M.R. Taylor), *Journal of Econometrics* Vol. 120, 2004, pp.35-73.

”Starting Value Effects on Tests for Double Differencing” (with A.M.R. Taylor), *Econometric Theory* Vol. 20, 2004, pp.95-115.

”Seasonal Unit Root Tests under Structural Breaks” (with U. Hassler), *Journal of Time Series Analysis* Vol. 25, 2004, pp.33-53.

”Threshold Cointegration and the PPP Hypothesis” (with P.M.D.C. Gouveia), *Journal of Applied Statistics* Vol.31, 2004, pp.115-127.

”F versus t tests for unit roots: A Comment” (with A. Tremayne), *Economics Bulletin* Vol.3(12), 2004, pp.1-7.

”Testes de raízes unitárias em modelos M-TAR na presença de quebras estruturais sob a hipótese nula” (with P.M.D.C. Gouveia), in Rodrigues, Rebelo and Rosado (eds) *Estatística com Acaso e Necessidade* - Actas do XI Congresso Anual da Sociedade Portuguesa de Estatística, Edições SPE, 2004.

”An Application of PAR Models for Tourism Forecasting” (with P.M.D.C. Gouveia), *Tourism Economics* Vol. 10, 2004, pp.281-303.

”Combinação de previsões com modelos Autorregressivos lineares e não lineares - Aplicações a séries do Turismo” (with P.M.D.C. Gouveia), in *Estudos I,* Ed. Faculdade de Economia, Universidade do Algarve, 2004, pp.643-662.

”Assimetria no Mecanismo de Taxas de Câmbio do SME” (with P.M.D.C. Gouveia and E.L. Rebelo), In Brito, Figueiredo, Sousa, Teles and Rosado (eds.) *Literacia e Estatística* - Actas do X Congresso Anual da Sociedade Portuguesa de Estatística, Edições SPE, 2003, pp. 325-336.

”On LM Tests for Seasonal Unit Roots” *The Econometrics Journal* Vol. 5, 2002, pp.76-195.

”Seasonal Random Walks with Drift:Properties of Least Squares Estimators”, *Portuguese Economic Journal* Vol. 1, 2002, pp.27-46.

”Avaliação de Testes de Raízes Unitárias em Modelos SETAR” (with P.M.D.C. Gouveia). Actas do IV Encontro de Economistas de Língua Portuguesa, 2002.

”Cointegração em Modelos SETAR: Uma aplicação à Teoria da Paridade dos Poderes de Compra” (with P.M.D.C. Gouveia), In Carvalho, Brilhante and Rosado (eds) *Novos Rumos em Estatística* - Actas do IX Congresso Anual da Sociedade Portuguesa de Estatística, Edições SPE, 2002.

”Near Seasonal Integration”, *Econometric Theory* Vol.17, 2001, pp.70-86.

”The Asymptotic Distributions of Seasonal Unit Root Tests: A Unifying Approach” (with D.R. Osborn), *Econometric Reviews* 21, 2001, pp.221-241.

”Seasonal Nonstationarity and Near-nonstationarity” (with E. Ghysels and D.R. Osborn), In *A Companion to Theoretical Econometrics*, Ed. Badi Baltagi, Blackwells. (CIRANO Working Paper 99s-05 - ftp://ftp.cirano.umontreal.ca/pub/publications/99s-05.pdf.zip).

”The Performance of Seasonal Unit Root Tests for Monthly Data”, (with D.R. Osborn), *Journal of Applied Statistics*, Vol. 26(8), 1999, pp.985-1004.

”A Note on the Application of the DF Test to Seasonal Data”, *Statistics and Probability Letters* Vol. 47, 1999, pp.171-175.

”Contrast of the Asymptotic Properties of Least Squares Estimates in Symmetric Seasonal Processes. Solution 98.5.3”, *Econometric Theory* Vol.15(5), 1998, pp.783-786.

”Contrast of the Asymptotic Properties of Least Squares Estimates in Symmetric Seasonal Processes. Problem 98.5.3”, *Econometric Theory* Vol. 14(5), 1998, p. 687.

Book Review: Modern Regression Methods by T.R. Ryan, The Statistician, 1997, The Royal Statistical Society.

**Other activities**

Referee for Bulletin of Economic Research, Computational Statistics and Data Analysis, Econometric Theory, Economics Bulletin, Econometric Reviews, Empirica, Empirical Economics, Economic Modelling, Journal of Applied Econometrics, Journal of Business and Economics Statistics, Journal of Econometrics, Journal of Empirical Finance, Journal of Statistical Computation and Simulation, Journal of the American Statistical Association, METRON – International Statistical Journal, Oxford Bulletin of Economics and Statistics, Portuguese Economic Journal, Portuguese Journal of Quantitative Methods, Revista Turismo e Desenvolvimento (Journal of Tourism and Development), Sociedade Portuguesa de Estatística, Spanish Economic Review, The Econometrics Journal, The Manchester School Journal, Tourism Economics, Tourism Management, Journal of Time Series Econometrics.

**Co-Editor**: Portuguese Economic Journal – Since 2015 - present.
**Associate Editor:** Economics Bulletin– Since 2014 - present
**Guest Editor**:

Journal of Financial Econometrics (2009), Vol. 7, No. 4.
Econometric Theory (2008), Vol. 24, No. 1.
Proceedings of the International Conference on Global Management, 2007.
Proceedings of the XI Conference of the Portuguese Statistical Society, 2003

Member of the Research Evaluation Committee of Universidade da Beira Interior - since 2015 - present.

Member of the Organising and Scientific Committees of the Conference on New Trends and Developments in Econometrics, 3 – 4 June, 2016, Banco de Portugal, Lisboa.

Member of the Scientific Committee of the 10th Annual Meeting of the Portuguese Economic Journal, of July, 2016, Universidade de Coimbra.

Member of the Scientific Committee of the International work-conference on Time Series (ITISE 2015), Granada (Spain) in June, 2015.

Member of the Scientific Committee of the 7th World Conference for Graduate research in Tourism, Hospitality and Leisure, 3-8 June 2015, Istanbul, Turkey.

Member of the Scientific Committee of the 8th Annual Meeting of the Portuguese Economic Journal, 4 - 5 of July, 2014, Universidade do Minho.

Member of the Scientific Committee of the Spanish Chapter in the 7th World Conference Graduate Research in Tourism Hospitality and Leisure, 3-8 June, Istanbul, Turkey.

Member of the Organising and Scientific Committees of the Conference on Econometric Methods for Banking and Finance, 12 – 13 September, 2014, Banco de Portugal, Lisboa.

Member of the Organising and Scientific Committees of the Conference on Robust Econometric Methods for Economic and Financial Variables, September 2012, Banco de Portugal,Lisboa

Member of the Organising and Scientific Committees of the 1st Annual Meeting of the Portuguese Econometric Society, June de 2012, Universidade Nova de Lisboa

Member of the Scientific Committee of the Association of Southern European Economic Theorists 2011 Annual Meeting, 27-29 October 2011, University of Évora.

Member of the Scientific Committee of the Conference in Advances in Tourism Economics, 14 - 15 April, 2011, Universidade Lusíada, Lisboa.

Member of the Organising Committee of the 4th Annual Meeting of the Portuguese Economic Journal, 25 - 26 June, 2010, Universidade do Algarve.

Member of the Scientific Committee of the 3rd Annual Meeting of the Portuguese Economic Journal, 26 - 28 June, 2009, Universidade da Madeira.

Member of the Scientific Committee of the 2nd Annual Meeting of the Portuguese Economic Journal, 4 - 5 de July, 2008, Universidade de Évora.

Member of the Organising and Scientific Committees of the EC2: Recent Advances in Time Series Analysis, 14-15 Dezember, 2007, Faculdade de Economia da Universidade do Algarve.

Member of the Organising and Scientific Committees of the Multivariate Volatility Models, 26-27 of October, 2007, Faculdade de Economia da Universidade do Algarve. One of the Keynote speakers was Prof. Robert Engle, Nobel Prize Winner in Economics 2003 2003.

Member of the Scientific Committee of the XIV Congresso da Sociedade Portuguesa de Estatística, ISCTE 19 - 21 August, 2007.

Member of the Scientific Committee and Chair of the Global Management conference in 2007, 2 – 5 May, 2007, Faro.

Member of the Organising and Scientific Committees of the Conference on New Developments in Macroeconomic Modelling and Growth Dynamics, 7-9 September, 2006, Faculdade de Economia da Universidade do Algarve.

Member of the Organising and Scientific Committees of the Conference on Recent Developments in Tourism Research, 6-7 October, 2005, Faculdade de Economia da Universidade do Algarve.

Member of the Organising and Scientific Committees of the Conference on Unit Root and Cointegration Testing, 29 of September - 1 October 2005, Faculdade de Economia da Universidade do Algarve.

Member of the Organising and Scientific Committees of XI Congresso da Sociedade Portuguesa de Estatística realizado, 24 - 27 September, Faculdade de Economia da Universidade do Algarve.

Member of the Organising and Scientific Committees of the Conference Seasonality in Economic and Financial Variables, 6-7 October 2000, Faculdade de Economia da Universidade do Algarve.

**Membership**

1. External Fellow of the Essex Centre for Financial Econometrics
   (*http://www.essex.ac.uk/ebs/research/econometrics/default.aspx*)

2. External Fellow of the Clive Granger Centre for Time Series Analysis
   of the University of Nottingham
   (http://www.nottingham.ac.uk/research/groups/grangercentre/people/index.aspx#External).

3. Member of the European Time Series Econometrics Research Network
   (*http://www.econ.ku.dk/rahbek/etsern*).

**Awards and honors**

2009 Econometric Theory Multa Scripsit Award

1995 Jon Stewart Prize in Econometrics;
School of Economic Studies, University of Manchester