

Manuel Santos Santos

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Current Academic Rank: Professor and James L. Knight Chair
Primary Department: Economics
Secondary or Joint Appointments: None.
Citizenship: US

HIGHER EDUCATION

Institutional:

- University of Chicago : Ph. D. (Economics) , 1984
- University of Chicago : M. A. (Economics) , 1982
- Universidad Autónoma de Madrid : Licenciatura (Economics) , 1979

EXPERIENCE

Academic:

- Basha Heritage Chair, Arizona State University, September 1999 – September 2007
- Visiting Professor, Universidad Carlos III of Madrid, May 2000 - May 2001
- Professor of Economics, University of Minnesota-Twin Cities, August 1997 - August 1999
- Professor of Economics, Centro de Investigación Económica (ITAM), Mexico City, August 1994 - August 1997
- Visiting Professor, Centro de Investigación Económica (ITAM), Mexico City, August 1993 - December 1993
- Professor, Universidad Carlos III de Madrid, October 1991 - August 1994
- Tinker Visiting Professor, University of Chicago, April 1991 - June 1991
- Visiting Professor, University of California, Los Angeles, January 1991 - March 1991
- Associate Professor, Universidad Autónoma de Barcelona, December 1987 - October 1991
- Assistant Professor, Universidad Autónoma de Barcelona, May 1985 - December 1987
- Teaching Assistant, Polytechnic of South Bank, London, September 1979 - June 1980

PUBLICATIONS

Juried or Refereed Journal Articles and Exhibitions:

(A) *Economic Growth*

Understanding growth patterns in U.S. healthcare expenditures (with A. Horenstein), *Journal of the European Economic Association*, 2019, Vol. 17, 284-326.

Investment rates and the aggregate production function (with F. Garcia-Belenguer), *The European Economic Review*, 2013, Vol. 63, pp. 150-169.

On some criteria for the formulation and testing of economic growth models, *Spanish Economic Review*, 2002, Vol. 4, pp. 1-18

A two-sector model of endogenous growth with leisure (with A. Ladrón de Guevara and S. Ortigueira), *Review of Economic Studies*, 1999, Vol. 66, pp. 609-632

“On the speed of convergence in endogenous growth models (with S. Ortigueira), *American Economic Review*, 1997, Vol. 87, pp. 383-399

Equilibrium dynamics in two-sector models of endogenous growth (with A. Ladrón de Guevara and S. Ortigueira), *Journal of Economic Dynamics and Control*, 1997, Vol. 21, pp. 115-145.

On endogenous growth with physical and human capital (with J. Caballé), *Journal of Political Economy*, 1993, Vol. 101, pp. 1042-1067.

(B) Analysis and Computation of Macroeconomic Model

Numerical solution of nonoptimal dynamic equilibrium models (with Z. Feng, J. Miao and A. Peralta-Alva), *International Economic Review*, 2014, Vol. 55, pp. 83-110.

Analysis of numerical errors (with A. Peralta-Alva), in: K. J. Judd and K. Schmedders, *Handbook of Computational Economics*, Elsevier, 2014. Vol. 3.

Differentiability of the value function in continuous-time economic models (with A. Rincon-Zapatero), *Journal of Mathematical Analysis and Applications*, 2012, Vol. 394, pp. 305-323.

Problems in the numerical simulation of dynamic models with heterogeneous agents and economic distortions (with A. Peralta-Alva), *Journal of the European Economic Association*, 2010, Vol. 8, pp. 617-625.

Consistency properties of a simulation-based estimator, *Annals of Applied Probability*, 2010, Vol. 20, pp. 196-213.

Differentiability of the value function under non-interiority conditions (with J.- P. Rincon-Zapatero), *Journal of Economic Theory*, 2009, Vol. 144, pp. 1948-1964

Convergence properties of the likelihood of computed dynamic models (with J. Fernandez-Villaverde and J. Rubio-Ramirez), *Econometrica*, 2006, Vol. 74, pp. 93-120.

Accuracy of simulations for stochastic dynamic models (with A. Peralta-Alva), *Econometrica*, 2005, Vol.73, pp. 1939-1976.

Convergence properties of policy iteration (with J. Rust), *SIAM Journal on Control and Optimization*, 2004, Vol. 42, pp. 2094-2115.

Simulation-based estimation of dynamic models with continuous equilibrium solutions, *Journal of Mathematical Economics*, 2004, Vol. 40, pp. 465-491.

Estimation by simulation of monotone dynamical systems, *Journal of Computational and Applied Mathematics*, 2003, Vol. 158, pp. 145-156

On non-existence of Markov equilibria in competitive-market economies, *Journal of Economic Theory*, 2002, Vol. 105, pp. 73-98

Equilibrium dynamics in a two-sector model with taxes (with S. Ortigueira), *Journal of Economic Theory*, 2002, Vol. 105, pp. 98-119

Accuracy of numerical solutions using the Euler equation residuals, *Econometrica*, Vol. 68, 2000, pp. 1377-1402

Numerical solution of dynamic stochastic models, in J. Taylor and M. Woodford, eds., *Handbook of Macroeconomics*, Elsevier, 1999, Vol. 1A, pp. 311-386

Analysis of error for a dynamic programming algorithm (with J. Vigo), *Econometrica*, 1998, Vol. 66, pp. 409-426

On the role of computation in economic theory (with J. Bona), *Journal of Economic Theory*, Vol. 72, 1997, pp. 241-281

Error bounds for a numerical solution for dynamic economic models (with J. Vigo), *Applied Mathematics Letters*, 1996, Vol. 9, pp. 41-45

Smooth dynamics and computation in models of economic growth, *Journal of Economic Dynamics and Control*, 1994, Vol. 18, pp. 879-895

On high-order differentiability of the policy function, *Economic Theory*, 1993, Vol. 2, pp. 565-570

Differentiability and comparative analysis in discrete-time optimization, *Journal of Economic Theory*, 1992, Vol. 57, pp. 222-229
Smoothness of the policy function in discrete-time economic models, *Econometrica*, 1991, Vol. 59, pp. 1365-1382
Smoothness of the policy function in continuous-time economic models: the one-dimensional case (with J.-L. Vila), *Journal of Economic Dynamics and Control*, 1991, Vol. 15, pp. 741-753

(C) Money and Financial Markets

Asset price volatility, price markups, and macroeconomic fluctuations (with M. A. Iraola), *Journal of Monetary Economics*, 2017, Vol. 90, pp. 84-97.
How Home Loan modification through the 60/40 Plan can save the housing sector, *Federal Reserve Bank of Saint Louis Review*, March-April 2012.
The value of money in a dynamic equilibrium model, *Economic Theory*, 2006, Vol. 27, pp. 39-58
Rational asset pricing bubbles (with M. Woodford), *Econometrica*, 1997, Vol. 65, pp. 19-57
Competitive equilibria for infinite horizon economies with incomplete markets (with A. Hernández), *Journal of Economic Theory*, 1996, Vol. 71, pp. 102-130
Incomplete financial markets with an infinite horizon (with A. Hernández), in R. Becker, M. Boldrin, R. Jones and W. Thompson, eds., *Growth, Trade and Equilibrium, Essays in Honor of L.W. McKenzie*, Academic Press, 1993, pp. 115-150
Existence of equilibria for monetary economies, *International Economic Review*, 1990, Vol. 31, pp. 783-797
On the structure of the equilibrium set of overlapping generations economies (with J. Bona), *Journal of Mathematical Economics*, 1989, Vol. 18, pp. 209-231.

(D) Microeconomics

Stock options and managerial optimal contracts (with J. Aseff), *Economic Theory*, 2004, Vol. 26, pp. 813-837.
On expenditure functions (with J. E. Martínez-Legaz), *Journal of Mathematical Economics*, 1996, Vol. 25, pp. 143-163
Duality between direct and indirect preferences (with J. E. Martínez-Legaz), *Economic Theory*, 1993, Vol. 3, pp. 335-351

Referred Works Accepted for Publication:

None

Manuscripts Under Review/Under Revision:

Currency speculation in a model of international reserves (with Carlos Perez), R&R, *Journal of Money, Credit and Banking*.
Corruption, the ability to pay, and the cost of breaking the law (with Leonidas Koutsougeras, and Fei Xu), submitted to the *Quarterly Journal of Economics*.
Existence of equilibrium and macroeconomic dynamics of sovereign default (with Zhigang Feng), submitted to *Econometrica*.
Managerial talent, CEO pay, and stock return volatility (with Stanimir Morfov) to be submitted to the *Journal of Finance*.
Bubbles with time-varying market sentiment (with Carlos Perez), under revision.
Computerization, composition of employment, and structure of wages (with Robert Plant and Tarek Sayed), under revision.
Laws of large numbers for competitive-market economies with frictions (with A. Peralta-Alva).

Research in Progress

Economic growth and the relative price of investment (with Fernando Garcia-Belenguer)
A cross-country study of the determinants of corruption (with Leonidas Koutsougeras and Fei Xu)
Monetary policy for a new era (with Miguel Iraola)
A model of the monetary transmission mechanism (with Eduardo Gimenez)

Lipschitz properties of the policy function (with Juan Pablo Rincon-Zapatero).

Books and Monographs Published:

None.

Book Reviews:

None.

Other Works and Publications

Speculative bubbles (with Miguel A. Iraola), *The New Palgrave Dictionary of Economics*, second edition, 2007

The two-sector model (with Fernando Garcia-Belenguer), *The International Encyclopedia of the Social Sciences*, second edition, 2008

The Solow Residual (with Fernando Garcia-Belenguer), *The International Encyclopedia of the Social Sciences*, second edition, 2008

Market Fundamentals (with Miguel A. Iraola), *The International Encyclopedia of the Social Sciences*, second edition, 2008.

PROFESSIONAL

Funded Research Performed:

Various grants from the European Union and the Spanish government (Caycit)

Editorial Responsibilities:

- Associate Editor: *Review of Economic Dynamics*, January 1997 - 2003
- Associate Editor: *Journal of Economic Theory*, October 1995 – present
- Associate Editor: *Quantitative Economics*, October 1995 - present
- Associate Editor: *Economic Theory*, August 1992 - 2004
- Associate Editor: *Econometrica*, July 1991 - July 1999
- Associate Editor: *Revista Española de Economía*, January 1992 - January 1997
- Editor: *Cuadernos Económicos de I.C.E.*, August 1988 - August 1995

Reviewer/Discussant:

Discussant in various international conferences

Reviewer in all major journals in economics

Coordinator:

- Organization Conferences:
 - Meetings of the Society of Economic Theory, Vigo, July 2005.
 - Meetings of the Society of Economic Dynamics, Sardinia, June 1999, member of the organizing committee
 - North American Meetings of the Econometric Society, Chicago, January 1998, member of the organizing committee
 - Meetings of the Society for Economic Dynamics and Control, Mexico City, June 1996, chairman of the organizing committee
 - Meetings of the Society for Economic Dynamics and Control, Los Angeles, June 1994, member of the organizing committee
 - Symposium “Economic Integration in Europe and the Americas,” Segovia, September 1993, organizer (with M. Boldrin, T.K. Kehoe and Z. Jimenez-Ridruejo)
 - First Meetings of the Society of Economic Theory, Cefalonia (Greece), May 1992, member of the organizing committee
 - Meetings of the Society for Economic Dynamics and Control, Capri, June 1991, member of the organizing committee
 - Symposium “Business Cycles and Labor Economics,” Madrid, August 1990, organizer (with M. Boldrin, A. Escribano and G. Hansen)
 - World Meetings of the Econometric Society, Barcelona, August 1990, member of the local organizing committee
 - Symposium “Dynamic Economic Models,” Madrid, June 1989, organizer (with M. Boldrin, M. Gracia, E. Palla)
 - Symposium “Intertemporal Economic Theory,” Universidad Autónoma de Barcelona, June 1988, organizer, (with J. Esteban)
 - Symposium “Equilibrium Theory and Finance,” Universidad Autónoma de Barcelona, June 1987, organizer (with J. Esteban)

Professional and Honorary Organizations:

American Economic Association
 Econometrica
 Society of Economic Dynamics

Honors and Awards:

Fellow of the Econometric Society

Listings:

None.

Other Professional Activities (e.g., papers presented; performances; conference proceedings, seminar or conference panel member, catalogue work, etc.):

- Invited Presentations:
 - Current Trends in Economic Theory, University of Paris I, June 2003
 - Conference in Computational and Mathematical Methods for Science and Engineering, CMMSE 2002, Alicante, Spain, September 2002, plenary speaker
 - Cornell-Penn State Meetings, March 2002, invited speaker
 - XXV Symposium of the Spanish Economic Association, December 2000, keynote speaker
 - Latin American Meetings of the Econometric Society, Cancun, August 1999, invited speaker
 - Meetings of the Society of Economic Dynamics and Control, Nafplio (Greece), June 1992, plenary speaker

- Contributed Presentations:
 - World Congress of the Econometric Society, London, August 2005
 - Society of Economic Dynamics, Budapest, June, 2005
 - Econometric Society, Madrid, August 2004.
 - Society of Economic Dynamics, Paris, June 2003
 - Society of Economic Theory, Rhodes, June 2003
 - Society of Economic Dynamics, New York, June 2002
 - Meetings of the Society for Economic Dynamics and Control, Oxford, June 1997
 - Meetings of the Society for Economic Dynamics and Control, Barcelona, June 1995
 - Meetings on “Mathematical Economics and Finance,” Tunisia, June 1994
 - Latin-American Meetings of the Econometric Society, Mexico City, September 1992
 - XVI Simposio de Análisis Económico, Barcelona, December 1991
 - SEEDS, Athens, November 1991
 - Latin-American Meetings of the Econometric Society, Punta del Este, August 1991
 - IMPA, Río de Janeiro, August 1991
 - XV Simposio de Análisis Económico, Barcelona, December 1990
 - SEEDS, Bilbao, November 1990
 - SEEDS, Florence, October 1989
 - SEEDS, Madrid, December 1987
 - European Meetings of the Econometric Society, Budapest, September 1986
 - X Simposio de Análisis Económico, Barcelona, September 1985
 - SEEDS, Bilbao, February 1985
 - Encuentros de Invierno 1985, Universidad Autónoma de Barcelona, January 1985

TEACHING

Teaching Awards Received:

None.

Teaching Specialization (courses taught):

Ph. D. Macroeconomics and computation
MBA Global economics and managerial economics

PLEASE COMPLETE

Thesis and Dissertation Advising:

Dissertations Supervised

Ana Maria Gallego, Universidad Autonoma de Barcelona
 Jorge Fernandez, Universidad Autonoma de Barcelona
 Antonio Ladrón-de-Guevara, Universidad Carlos III de Madrid
 Salvador Ortigueira, Universidad Carlos III de Madrid
 Eduardo Gimenez, Universidad Carlos III de Madrid
 Luciane Carpena, University of Minnesota
 Jorge Aseff, Arizona State University
 Seongman Moon, Arizona State University
 Fernado Garcia-Belenguer, Universidad Carlos III de Madrid
 Sergio Puente, Universidad Carlos III de Madrid
 Miguel Angel Iraola, Universidad Carlos III de Madrid
 Stanimir Morfov, Universidad Carlos III de Madrid
 Carlos Perez, Universidad Carlos III de Madrid
 Gerasimos Lianos, Universidad Carlos III de Madrid
 Liang Shao, University of Miami

Zhigang Feng, University of Miami
Teresa Eugénia Vasconcelos e Sousa, Universidade Nova, Lisbon

Current Advisees

none

SERVICE

University Committees and Administrative Responsibilities:

Chairman of the Department of Economics

Community Activities:

None.