

# JESÚS FERNÁNDEZ-VILLAVERDE

September 1, 2021

**Address:** Department of Economics  
The Ronald O. Perelman Center for Political Science and Economics  
133 South 36th Street  
University of Pennsylvania  
Philadelphia, PA 19104

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## **Current Appointments:**

Professor of Economics, University of Pennsylvania.  
Director, Penn Initiative for the Study of the Markets.  
Faculty, Graduate Group in Applied Mathematics and Computational Science (Penn).  
Research Associate, National Bureau of Economic Research.  
Research Affiliate, Centre for Economic Policy Research.  
Member, CESifo Research Network.

## **Past Appointments:**

National Fellow, Hoover Institution at Stanford University, 2014-2015.  
Kenen Fellow in International Economics, Princeton University, 2013-2014.  
Director, Penn Institute for Economic Research, 2011-2012.  
Associate Professor of Economics, University of Pennsylvania, 2007-2011.  
Associate Professor of Economics, Duke University, 2006-2007.  
Assistant Professor of Economics, University of Pennsylvania, 2001-2007.  
Faculty Research Fellow, National Bureau of Economic Research, 2005-2007.  
Research Associate Chair (*Director de Cátedra*), FEDEA (Spain), 2009-2013.

## **Visiting Appointments:**

Visiting Professor, Harvard University, Spring 2018, Spring 2019.  
Visiting Professor, University of Oxford, Trinity 2018, Trinity 2019, Trinity 2021.  
Visiting Professor, University of Melbourne, August 2017.  
Visiting Professor, University of Oxford and Nuffield College, Hillary and Trinity 2017.  
Visiting Scholar, Bank of Spain 2016-current.  
Visiting Scholar, Federal Reserve Bank of Philadelphia, 2002-current.  
Visiting Scholar, Federal Reserve Bank of Chicago, 2014-current.  
Visiting Scholar, Federal Reserve Bank of Cleveland, 2021.  
Visiting Scholar, Federal Reserve Bank of St. Louis, 2010.  
Visiting Scholar, Federal Reserve Bank of Atlanta, 2002-2008.  
Visiting Scholar, The Cambridge-INET Institute, University of Cambridge, 2015.  
Visiting Scholar, Becker-Friedman Institute, University of Chicago, 2014.  
Visiting Professor, Yale University, 2012.  
Visiting Associate Professor, Yale University, 2008.  
Visiting Assistant Professor, New York University, 2005-2006.

**Degrees:**

- Ph.D. in Economics, University of Minnesota, 2001.  
B.Sc. in Economics and Management, ICADE, Spain, 1996.  
LL.B., ICADE, Spain, 1995.

**Honors:**

- Fellow of the Econometric Society, 2020.  
IX Herrero Prize, Outstanding Economist or Social Scientist in Spain under 40, 2010.  
Richard Stone Prize in Applied Econometrics 2004/2005, 2006.  
Kravis Award for Distinction in Undergraduate Teaching. University of Pennsylvania, 2004, 2019.  
Hardy Fellowship, Department of Economics, University of Minnesota, 1999-2000.  
La Caixa Graduate Fellowship, Spain, 1996-1998.

**Publications (English)****Books:**

1. “Macroeconomics: A Dynamic Approach.” Joint with Dirk Krueger (University of Pennsylvania). Under contract with *Princeton University Press*.

**Papers in Academic Journals:**

2. (2021) “Deciphering the Macroeconomic Effects of Internal Devaluations in a Monetary Union” Joint with Javier Andrés (Universidad de Valencia), Óscar Arce (Banco de España), and Samuel Hurtado (Banco de España). *International Journal of Central Banking*, forthcoming.
3. (2021) “Has Machine Learning Rendered Simple Rules Obsolete?” *European Journal of Law and Economics*, forthcoming.
4. (2021) “Central Bank Digital Currency: Central Banking For All?” Joint with Harald Uhlig (University of Chicago), Daniel Sanches (Federal Reserve Bank of Philadelphia), and Linda Schilling (École Polytechnique CREST). *Review of Economic Dynamics*, 41, 225-242.
5. (2021) “The ‘Matthew Effect’ and Market Concentration: Search Complementarities and Monopsony Power.” Joint with Federico Mandelman (Federal Reserve Bank of Atlanta), Yang Yu (Shanghai University of Finance and Economics), and Francesco Zanetti (University of Oxford). *Journal of Monetary Economics*, 121, 62-90.
6. (2021) “Bargaining Shocks and Aggregate Fluctuations,” joint with Thorsten Drautzburg (Federal Reserve Bank of Philadelphia) and Pablo Guerrón-Quintana (Boston College). *Journal of Economic Dynamics and Control*, 127.

7. (2021) “Estimating DSGE Models: Recent Advances and Future Challenges.” Joint with Pablo Guerrón (Boston College). *Annual Review of Economics*, 13, 229-252.
8. (2021) “Cryptocurrencies and All That: Two Ideas from Monetary Economics.” *Cato Journal*, 41, 321-332.
9. (2020) “Macroeconomic outcomes and COVID-19: A Progress Report.” Joint with Charles I. Jones (Stanford GSB). *Brookings Papers on Economic Activity*, Fall 2020.
10. (2020) “Uncertainty Shocks and Business Cycle Research.” Joint with Pablo Guerrón (Boston College). *Review of Economic Dynamics*, 37, S118-S146.
11. (2019) “Can Currency Competition Work?” Joint Daniel Sanches (Federal Reserve Bank of Philadelphia). *Journal of Monetary Economics*, 106, 1-15.
12. (2018) “Cryptocurrencies:A Crash Course in Digital Monetary Economics.” *Australian Economic Review*, 51(4), 514-526.
13. (2018) “The Pruned State-Space System for Non-Linear DSGE Models: Theory and Empirical Applications.” Joint with Martin Andreasen (Aarhus University) and Juan F. Rubio-Ramírez (Emory University). *Review of Economic Studies*, 85, 1, 1-49.
14. (2018) “Solution Methods for Models with Rare Disasters,” joint with Oren Levinthal (Interdisciplinary Center (IDC) Herzliya). *Quantitative Economics*, 9, 903-944.
15. (2018) “The Economic Consequences of Labor Market Regulations.” *University of Chicago Legal Forum* 2017, 119-141.
16. (2017) “Institutions and Political Party Systems: the Euro Case,” joint with Tano Santos (Columbia Business School). *Arizona Sate Law Journal*, 49, 985-1022.
17. (2016) “Magna Carta, the Rule of Law, and the Limits on Government.” *International Review of Law and Economics*, 47, 22-28.
18. (2015) “Fiscal Volatility Shocks and Economic Activity.” Joint with Pablo Guerrón (Boston College), Keith Kuster (Bonn University), and Juan F. Rubio-Ramírez (Emory University). *American Economic Review*, 105, 3352-3384.
19. (2015) “Estimating Dynamic Equilibrium Models with Stochastic Volatility.” Joint with Pablo Guerrón (Boston College) and Juan F. Rubio-Ramírez (Emory University). *Journal of Econometrics* 185 (1), 216-229

20. (2015) “Nonlinear Adventures at the Zero Lower Bound.” Joint with Pablo Guerrón (Boston College), Grey Gordon (Indiana University), and Juan F. Rubio-Ramírez (Emory University). *Journal of Economic Dynamics and Control*, 57, 182-204.
21. (2015) “A Comparison of Programming Languages in Macroeconomics.” Joint with S. Boragan Aruoba (University of Maryland). *Journal of Economic Dynamics and Control* 58, 265-273.
22. (2014) “Supply-Side Policies and the Zero Lower Bound.” Joint with Pablo Guerrón (Boston College) and Juan F. Rubio-Ramírez (Emory University). *IMF Economic Review* 62(2), 248-260.
23. (2014) “From Shame to Game in One Hundred Years: An Economic Model of the Rise of Pre-Marital Sex and its Destigmatization.” Joint with Jeremy Greenwood (University of Pennsylvania), and Nezih Guner (ICREA and Barcelona GSE). *Journal of the European Economic Association*, 12 (1), 25-61.
24. (2013) “Political Credit Cycles: The Case of the Euro Zone.” Joint with Luis Garicano (LSE) and Tano Santos (Columbia Business School). *Journal of Economic Perspectives*, 27(3), 145-66.
25. (2012) “Computing DSGE Models with Recursive Preferences and Stochastic Volatility.” Joint with Dario Caldara (Federal Reserve Board), Juan F. Rubio-Ramírez (Emory University), and Yao Wen (Bank of Canada). *Review of Economic Dynamics* 15, 188-206.
26. (2012) “The Term Structure of Interest Rates in a DSGE Model with Recursive Preferences.” Joint with Jules H. van Binsbergen (University of Pennsylvania), Ralph S.J. Koijen (Chicago Booth), and Juan F. Rubio-Ramírez (Emory University). *Journal of Monetary Economics* 59, 634-648.
27. (2011) “Risk Matters: The Real Effects of Volatility Shocks.” Joint with Pablo Guerrón (Boston College), Juan F. Rubio-Ramírez (Emory University), and Martín Uribe, (Columbia University). *American Economic Review* 101, 2530-61.
28. (2011) “Monetary and Fiscal Policy after the Great Recession.” *Moneda y Crédito* 232, 339-385.
29. (2011) “Tapping the Supercomputer Under Your Desk: Solving Dynamic Equilibrium Models with Graphics Processors.” Joint with Eric Aldrich (UC Santa Cruz), A. Ronald Gallant (Penn State), and Juan F. Rubio-Ramírez (Emory University). *Journal of Economic Dynamics and Control* 35, 386-393.
30. (2011) “Consumption and Saving over the Life Cycle: How Important are Consumer Durables?” Joint with Dirk Krueger (University of Pennsylvania). *Macroeconomic Dynamics* 15, 725-770.

31. (2010) “The Econometrics of DSGE Models.” *SERIES: Journal of the Spanish Economic Association* 1, 3-49 (lead article of inaugural issue).
32. (2010) “MEDEA: A DSGE Model for the Spanish Economy.” Joint with Pablo Burriel (Banco de España) and Juan F. Rubio-Ramírez (Emory University). *SERIES: Journal of the Spanish Economic Association* 1, 175-243.
33. (2010) “Fiscal Policy in a Model with Financial Frictions.” *American Economic Review Papers and Proceedings* 100:2, 35-40.
34. (2008) “How Structural are Structural Parameters?” Joint with Juan F. Rubio-Ramírez (Emory University). *2007 NBER Macroeconomics Annual*, 83-137.
35. (2008) “Horizons of Understanding: a Review of Ray Fair’s How the Macroeconomy Works.” *Journal of Economic Literature* 66, 685-703.
36. (2007) “Consumption over the Life Cycle: Some Facts from Consumer Expenditure Survey Data.” Joint with Dirk Krueger (University of Pennsylvania). *Review of Economics and Statistics* 89, 552-565.
37. (2007) “On the Solution of the Growth Model with Investment-Specific Technological Change.” Joint with Juan F. Rubio-Ramírez (Emory University). *Applied Economic Letters* 14, 549-553.
38. (2007) “A Generalization of the Endogenous Grid Method.” Joint with Francisco Barillas (Emory University). *Journal of Economic Dynamics and Control* 31, 2698-2712.
39. (2007) “Estimating Macroeconomic Models: A Likelihood Approach.” Joint with Juan F. Rubio-Ramírez (Emory University). *Review of Economic Studies* 74, 1059-1087.
40. (2007) “A, B, C, (and D)’s for Understanding VARs.” Joint with Juan F. Rubio-Ramírez (Emory University), Thomas Sargent (NYU) and Mark Watson (Princeton University). *American Economic Review* 97, 1021-1026.
41. (2006) “Convergence Properties of the Likelihood of Computed Dynamic Models.” Joint with Juan F. Rubio-Ramírez (Emory University) and Manuel Santos (University of Miami). *Econometrica* 74, 93-119.
42. (2006) “Economic and VAR Shocks: What Can Go Wrong?” Joint with Juan F. Rubio-Ramírez (Emory University). *Journal of the European Economic Association Papers and Proceedings* 4, 466-474.
43. (2006) “Comparing Solution Methods for Dynamic Equilibrium Economies.” Joint with S. Boragan Aruoba (University of Maryland) and Juan F. Rubio-Ramírez (Emory University). *Journal of Economic Dynamics and Control* 30, 2447-2508.

44. (2006) “Solving DSGE Models with Perturbation Methods and a Change of Variables.” Joint with Juan F. Rubio-Ramírez (Emory University). *Journal of Economic Dynamics and Control* 30, 2509-2531.
45. (2005) “Estimating Dynamic Equilibrium Economies: Linear versus Nonlinear Likelihood.” Joint with Juan F. Rubio-Ramírez (Emory University). *Journal of Applied Econometrics* 20, 891-910. Awarded the Richard Stone Prize in Applied Econometrics for the years 2004/2005.
46. (2004) “Comparing Dynamic Equilibrium Economies to Data.” Joint with Juan F. Rubio-Ramírez (Emory University). *Journal of Econometrics* 123, 153-187.

#### Other Publications:

47. (2021) “Economists and the pandemic.” In *Capitalism after Covid: Conversations with 21 Economists*, Luis Garicano (ed.).
48. (2019) “The Economics of Minimum Wage Regulations.” In *Cambridge Handbook of US Labor Law for the Twenty-First Century*.
49. (2018) “Tracking Business Conditions in Delaware.” Joint with Jonas E. Arias, *Economic Insights*, Fall 2018, 1-7.
50. (2018) “Economic Policy Challenges Facing California’s Next Governor.” Joint with Scott Atlas, Eric Hanushek, Ed. Lazear, Lee Ohanian, Joshua D. Rauh, and Frank Wolak, *Hoover Institution*.
51. (2017) “Cryptocurrencies: Some Lessons from Monetary Economics.” Joint with Daniel Sanches (Federal Reserve Bank of Philadelphia). In Michael Bordo (ed.), *The Structural Foundations Of Monetary Policy*, 136-143.
52. (2015) “Solution and Estimation Methods for DSGE Models.” Joint with Juan F. Rubio-Ramírez (Emory University) and Frank Schorfheide (University of Pennsylvania). *Handbook of Macroeconomics, Volume 2*, 527-724.
53. (2015) “Healthcare.” In James R. Stoner, Jr. and Harold James (eds.), *The Thriving Society*, 189-204.
54. (2014) “Discussion of “Can Structural Reforms Help Europe?” by Gauti Eggertsson, Andrea Ferrero, and Andrea Raffo.” *Journal of Monetary Economics* 61, 23-31.
55. (2014) “Anxieties of Fairness.” *First Things*, August/September 2014, 54-56.
56. (2013) “Macroeconomics and Volatility: Data, Models, and Methods.” Joint with Juan F. Rubio-Ramírez (Emory University). In *Advances in Economics and Econometrics: Theory and Applications, Tenth World Congress of the Econometric Society*, Cambridge University Press.

57. (2010) “Reading the Recent Monetary History of the U.S., 1959-2007.” Joint with Pablo Guerrón (Boston College) and Juan F. Rubio-Ramírez (Emory University). *Federal Reserve Bank of St. Louis Review* 92, 311-338.
58. (2010) “The New Macroeconometrics: A Bayesian Approach.” Joint with Pablo Guerrón (Boston College) and Juan F. Rubio-Ramírez (Emory University). In Anthony O’Hagan and Mike West (eds.), *Handbook of Applied Bayesian Analysis*, Oxford University Press.
59. (2010) “The Spanish Crisis from a Global Perspective.” Joint with Lee Ohanian (UCLA). *The Crisis of the Spanish Economy, FEDEA*.
60. (2009) “Two Books on the New Macroeconometrics.” Joint with Juan F. Rubio-Ramírez (Emory University). *Econometric Reviews* 28, 376-387.
61. (2008) “Kalman and Particle Filtering.” *The New Palgrave Dictionary of Economics*.
62. (2008) “Structural Vector Autoregressions.” Joint with Juan F. Rubio-Ramírez (Emory University). *The New Palgrave Dictionary of Economics*.
63. (2007) “Modern Macroeconomics in Action: Estimating a DSGE Model for the Europe.” Joint with Juan F. Rubio-Ramírez (Emory University) and David Taguas (SEOPAN). *European Watch*, 19-24.
64. (2006) “Discussion of “Optimal Fiscal and Monetary Policy in a Medium-Scale Macroeconomic Model” by Stephanie Schmitt-Grohé and Martín Uribe.” *2005 NBER Macroeconomics Annual*, 427-444.
65. (2006) “The Research Agenda: Jesús Fernández-Villaverde and Juan F. Rubio-Ramírez on Estimation of DSGE Models.” *Economic Dynamics Newsletter* 8, Issue 1, November 2006. Joint with Juan F. Rubio-Ramírez (Emory University).

### Publications (Spanish)

#### Books:

66. (2011) “Testigos: 25 Años de Economía Española.” Editor and author of two chapters (“Introducción,” and “Cristobal Montoro”). *FEDEA*.
67. (2011) “Nada Es Gratis: Cómo Evitar una Generación Perdida.” Joint with Samuel Bentolila (CEMFI), Antonio Cabrales (Universidad Carlos III de Madrid), Luis Garicano (LSE), Juan F. Rubio-Ramírez (Emory University), and Tano Santos (Columbia Business School). *Editorial Destino*.

68. (2010) “La Ley de Economía Sostenible y las Reformas Estructurales: 25 Propuestas.” Edited jointly with Manuel Bagúes (Universidad Carlos III de Madrid) and Luis Garicano (LSE). FEDEA. In addition, author of three chapters (“Las Reformas Estructurales: Empezar a Caminar,” “Marco Fiscal y Tributario,” and “El Futuro”). FEDEA.

### Other Publications:

69. (2015) “Imperio de la Ley y Crecimiento Económico.” *El Notario: Revista de Colegio Notarial de Madrid* 60, 162-165.
70. (2015) “Imperio de la Ley y Crecimiento Económico: Teoría, Historia y Evidencia.” *Anales de la Academia Matritense del Notariado* 55, 215-240.
71. (2013) “Entrevista a Jesús Fernández-Villaverde: Cinco Libros para Pensar la Historia.” *Politikon* 1.
72. (2012). “La Ley de Estabilidad Presupuestaria.” *Los Primeros Cien días: Reformas Estructurales, Estabilidad Presupuestaria y lo que Queda por Hacer*, Luis Garicano (ed.).
73. (2012) “La Salida de la Crisis: Cómo y Cuándo.” *Anales de Mecánica y Electricidad*, Noviembre-Diciembre 2012, 12-21.
74. (2011) “El Sistema de Pensiones ante los Retos Demográficos.” *Geoconomía*, Primavera 2011, 105-116.
75. (2010) “¿Qué Papel Deben Tener los Programas de Trabajo Reducido en la Lucha contra el Paro?” Joint with Luis Garicano (LSE) in *Propuesta para la Reactivación Laboral en España*, FEDEA.
76. (2010) “El Índice Fedea de Actividad Económica.” Joint with Juan F. Rubio-Ramírez (Emory University). *Observador Económico Financiero* 501, 14-16.
77. (2010) “El Crecimiento de las Naciones y la Política Económica.” In *Libros de Economía y Empresa* V, 8-10.
78. (2009) “Una Propuesta de Política Fiscal ante la Crisis.” Joint with Juan F. Rubio-Ramírez (Emory University) in *La Crisis de la Economía Española: Lecciones y Propuestas*, FEDEA.
79. (2009) “G20: El Futuro Dura Mucho Tiempo.” Joint with Juan F. Rubio-Ramírez (Emory University) in *La Crisis de la Economía Española: Lecciones y Propuestas*, FEDEA.



**Completed Research Papers**

80. (2021) “Search Complementarities, Aggregate Fluctuations, and Fiscal Policy” with Federico Mandelman, Yang Yu, and Francesco Zanetti.
81. (2021) “Inequality and the Zero Lower Bound,” with Jo ”el Marbet, Galo Nuño, and Omar Rachedi.
82. (2021) “Bayesian Estimation of Epidemiological Models: Methods, Causality, and Policy Trade-Offs,” with Jonas E. Arias, Juan F. Rubio-Ramírez, and Minchul Shin
83. (2021) “Exploiting Symmetry in High-Dimensional Dynamic Programming,” with Mahdi Ebrahimi Kahou, Jesse Perla, and Arnav Sood.
84. (2020) “Fractured-Land and the Puzzle of Political Unification and Fragmentation” with Mark Koyama, Youhong Lin, and Tuan-Hwee Sng.
85. (2020) “Estimating and Simulating a SIRD Model of COVID-19 for Many Countries, States, and Cities” with Chad Jones.
86. (2020) “Central Bank Digital Currency: when Price and Bank Stability Collide” with Linda Schilling and Harald Uhlig.
87. (2019) “Financial Frictions and the Wealth Distribution,” joint with Galo Nuño and Samuel Hurtado.
88. (2019) “Demographic Transitions Across Time and Space,” joint with Matthew J. Delventhal and Nezhil Guner .
89. (2018) “Safe Assets,” joint with Robert Barro (Harvard University), Oren Levintal (Interdisciplinary Center (IDC) Herzliya), and Andrew Mollerus (Columbia University).
90. (2013) “Optimal Capital Versus Labor Taxation with Innovation-Led Growth,” joint with Philippe Aghion (Harvard University) and Ufuk Akcigit (UPenn).
91. (2011) “Evaluating Labor Market Reforms: a General Equilibrium Approach.” Joint with César Alonso-Borrego (Universidad Carlos III de Madrid) and José E. Galdón-Sánchez (Universidad Pública de Navarra).
92. (2011) “Was Malthus Right? Economic Growth and Population Dynamics.”
93. (2011) “Some Further Notes on Was Malthus Right? Economic Growth and Population Dynamics.”

94. (2011) “Entrepreneurship, Financial Intermediation and Aggregate Activity.” Joint with Luis Carranza (BBVA Banco Continental) and José E. Galdón-Sánchez (Universidad Pública de Navarra).
95. (2011) “Can We Really Observe Hyperbolic Discounting?” Joint with the late Arijit Mukherji. Also in *NAJ Economics*, Volume 3 - December 12, 2001.
96. (2011) “Optimal Fiscal Policy in a Business Cycle Model without Commitment.” Joint with Aleh Tsyvinski (Yale University).
97. (2011) “Una Propuesta para el Seguimiento Puntual de la Coyuntura de la Economía de Madrid.” Joint with Mario Alloza (UCL).
98. (2010) “La Política Fiscal y la Crisis de la Economía Española.”

### Teaching Material

99. Lecture Notes on Methods on Macroeconomic Dynamics (944 pages). Notes for a second-year graduate class on computation and estimation of macroeconomic models.
100. Lecture Notes on Macroeconomic (573 pages). Notes for a first year graduate class on macroeconomics.
101. Lecture Notes on Equilibrium Macroeconomics (627 pages). Notes for a two-semester sequence of undergraduate macroeconomics.
102. Lecture Notes on Global Economic History (550 pages). Notes for a two-semester sequence of global economic history.
103. Lecture Notes on the Political Economy of Early America (650 pages). Notes for a two-semester class on the economics and politics of Early America.

### Grants:

- Penn China Research and Engagement Fund, grant on “China in Global Economic History,” 2015-2018.
- National Science Foundation Grant, “Health Risks, Health Technology, and Public Policy,” 2013-2015.
- National Science Foundation Grant, “Perturbation Methods for Markov-Switching Models,” 2012-2014.
- National Science Foundation Grant, “New Bayesian Methods for the Estimation of DSGE Models,” 2007-2012.
- National Science Foundation Grant, “Optimal Fiscal Policy in a Business Cycle Model without Commitment,” 2003-2006.
- National Science Foundation Grant, “Durable Goods and the Business Cycle,” 2002-2003.

Spanish Ministry of Education and Science Grant, “Institutional Design and New Technology,” 2002-2005.

University of Pennsylvania Research Foundation Grant, 2002-2003.

University of Minnesota Supercomputer Institute, Principal User, project Computation and Estimation of Dynamic General Equilibrium Models with Microeconomic Heterogeneity, 2000-2003.

**Editorial Activities:**

Editorial Board, *International Economic Review*.

Editor, *Nada es Gratis*. Also, author of 618 entries.

Editor, *Review of Economic Dynamics (2012-2016)*.

Editor, *The B.E. Journals of Macroeconomics (2007-2009)*.

Associate Editor (current), *Econometrica*, *AEJ: Macro*.

Associate Editor (past), *American Economic Review*, *Journal of the European Economic Association*, *International Economic Review*, *Journal of Economic Dynamics and Control*, *Review of Economic Dynamics*, *SERIES (Journal of the Spanish Economic Association)*.

*AER Excellence in Refereeing Award, 2016 and 2017.*

**Professional Activities and Conferences:**

Advisor to the Hoover Institution's Regulation and Rule of Law Initiative (2017-2020).

Vicepresident, CREDO (<http://www.credo-economists.org/>).

Board of Directors, Fundación Hay Derecho.

Advisory Council, Círculo de Empresarios (2011-2020).

Scientific Committee, UP Comillas International Graduate School.

Faculty Fellow, Collegium Institute.

Associated Researcher at ADEMU- A Dynamic Economic and Monetary Union.

Vicepresident, Asociación Nada es Gratis (<http://nadaesgratis.es/>) (until 2017).

Co-coordinator of the Estimation of MEDEA, Modelo de Equilibrio Dinámico de la Economía Española, a large-scale Dynamic Stochastic General Equilibrium Model of the Spanish Economy for the Economic Bureau of the President of the Spanish Government.

Co-coordinator of the FEDEA Business Cycle Index of the Spanish Economy: Índice F (2011-2013).

Co-coordinator of the FEDEA Business Cycle Index of the Madrid Economy (2011-2013).

Program Chair, with Martin Schneider, Society for Economic Dynamics meetings, July 2008.

Co-organizer with Frank Schorfheide of NBER group on "Methods and Applications for Dynamic Equilibrium Models." Yearly meetings at the NBER Summer Institute.

Co-organizer with Giorgio Primiceri and Frank Schorfheide of conference: "Empirical Methods and Application for Dynamic Stochastic General Equilibrium Models." Federal Reserve Bank of Philadelphia (October 2011, October, 2010, October 2009, October 2013, October 2015, October 2017, October 2019), Federal Reserve Bank of Chicago (October 2019), Federal Reserve Bank of Cleveland (October 2008, October 2007, October 2006, October 2005, and September 2004), Federal Reserve Bank of Atlanta (October 2012), and Federal Reserve Bank of Atlanta (October 2014).

Co-organizer: "Philadelphia Workshop on the Economics of Digital Currencies," September 2021.

Co-organizer and co-instructor: "Markets and Morals," Elm Institute, June, 2017, and June, 2018.

Co-organizer: "The Macroeconomics of Uncertainty and Volatility," SITE, August 2016, August 2017, August 2018, August 2019, July 2015 and June 2013.

Co-organizer "Foundation of Liberty Conference," July 2015, Hoover Institutions.

Co-organizer "25 Years of Recursive Methods in Macroeconomic Dynamics," May 2014, Federal Reserve Bank of Minneapolis.

Co-organizer: "The Human Person, Economics, and Catholic Social Thought," April 2014.

Co-organizer: "Toward a Moral Economy: Globalization and the Developing World," May 2013.

Program Committee of Econometric Society meetings, Society for Economic Dynamics meetings, European Economic Association, and Simposio de Análisis Económico (meetings of the Spanish Economic Association): several years.

**Plenaries and Public Lectures:**

SCOR-Paris School of Economics Lecture, April 2020.

Astor Lecture, University of Oxford, May 2016.

“The Macroeconomics of Uncertainty.” SCE, Vancouver, July 2013 (invited).

“The Macroeconomics of Uncertainty.” Midwest Macro Conference, Boulder, November 2012.

“The New Macroeconometrics: Foundations and Applications.” Dynare Conference, Paris, October 2007.

“The New Macroeconometrics: Foundations and Applications.” Simposio de Análisis Económico, Granada, December 2007.

**Doctoral Advising:**

Director of the Graduate Group in Economics at University of Pennsylvania, 2015-

**Thesis Advisor of:**

Marc Folch (2021). First Job: University of Chicago (3 year position).

Hanbaek Lee (2021). First Job: Tokyo University.

Le Xu (2020). First Job: Shanghai Jiao Tong University.

Minsu Chang (2019). First Job: Georgetown University.

David Zarruk Valencia (2018). First Job: ITAM.

Zach Stangebye (2015). First Job: Notre Dame University.

Molin Zhong (2015). First Job: Federal Reserve Board.

Sina Ates (2015). First Job: Federal Reserve Board.

Nils Gorneman (2014). First Job: Federal Reserve Board.

Hikaru Saijo (2013). First Job: UC Santa Cruz.

Mitsuru Katagiri (2011). First Job: Bank of Japan.

Dario Caldara (2011). First Job: Federal Reserve Board.

Yao Wen (2011). First Job: Bank of Canada.

Sanjay Chugh (2004). First Job: Federal Reserve Board.

**Thesis Committee Member of:**

Paolo Martellini (2020). First Job: University of Wisconsin.

André Victor Doherty Luduvicé (2020). First Job: Federal Reserve Bank of Cleveland.

Eugenio Rojas (2019). First Job: University of Florida.

Luigi Bocola (2014). First Job: Northwestern U.

Mark Bognani (2013). First Job: Cleveland Fed.

Grey Gordon (2012). First Job: Indiana University.

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Alvaro Aguirre (2011). First Job: Banco Central de Chile  
Ed Herbst (2011). First Job: Federal Reserve Board.  
Serdar Ozkan (2011). First Job: Federal Reserve Board.  
Leonardo Melosi (2010). First Job: LBS.  
Cristina Fuentes Albero (2010). First Job: Rutgers University.  
Max Kryshko (2010). First Job: IMF.  
Sergey Stetsenko (2010). First Job: Moody's.  
Sungbae An (2006). First Job: Singapore Management University.  
Irina Telyukova (2006) First Job: University of California, San Diego.  
Chiara Scotti (2005) First Job: Federal Reserve Board.  
Fernando Martin (2005). First Job: Simon Fraser University.  
Boragan Aruoba (2004). First Job: University of Maryland, College Park.  
Makoto Nakajima (2004). First Job: University of Illinois, Urbana-Champaign.  
Marina Pavan (2003). First Job: Boston College.