

Bernardo Alves Furtado

Policy, Urban and Spatial Analyst, Modeler

August 21, 2026

Selected Positions

- 2009– **Tenured Planning and Policy Researcher**, *Institute for Applied Economic Research (Ipea)*, Planning Ministry, Government of Brazil
- 2015– **Master course Professor**, *Ipea*, Public Policies and Development Master course
- 2023 **Coordinator, Financing and Investment Studies**, *Ipea*
- 2013–2015 **Deputy Director, Regional, Urban and Environmental Studies (DIRUR)**, *Ipea*
- 2011–2021 **Coordinator (3), Chief of Division at Ipea**
- 2014–2023 **Productivity Scholar**, *National Council for Scientific and Technological Development (CNPq)*

Selected Education

- 2008–2009 **PhD**, *University of Utrecht*, Utrecht, Geosciences
Thesis Modeling social heterogeneity, neighborhoods and local influences on urban real estate prices
in co-tutorship with
- 2005–2009 **Doctorate**, *Federal University of Minas Gerais*, Belo Horizonte, Economics
Center for Regional Development (CEDEPLAR)
- 2000–2003 **Master**, *Pontifical Catholic University (PUC-MG)*, Geography. *Spatial information*
- 2018 **Visiting scholar**, *University of Oxford*, Oxford, UK Infrastructure Transitions Research Consortium (ITRC)
- 2025 **Foresight for Development**, *CEPAL/ECLAC*, Chile, 60h

Selected Scholarships and awards

- 2014–2023 **Productivity Grant**, *National Council for Scientific and Technological Development*
- 2018 **Assistant Professor tenure-track position**, *Geography and Geoinformation systems Department*, George Mason University, Fairfax, VA
- 2009 **Associate Professor tenure-track position**, *Architecture and Urbanism*, Federal University of Minas Gerais, 1st place

Research and academic activities

- 2019/2021 **Complexity**, 1076–2787, Open Access – Hindawi, Guest Editor
- 2015 **Planning and Public Policy**, 0103–4138, Open Access – Ipea, Co-Editor

Others	Policy Evaluation for the Government , <i>Mentoring</i> , Committees students/professorship, Project participation (Ipea/Government), Master Plans
Knowledge	Python, SAS, Stata, R, SQL, Matlab, $\LaTeX$, Julia
Software developed	PolicySpace2-3, VIDA/SobreVIDA, U-TRANS, SEAL, also see: github.com/bafurtado

Selected recent publications

Peer-reviewed papers

- [1] G. L. Rocha Lima, B. A. Furtado, and O. F. Lopes, "Innovation or contraction? Unpacking the effects of carbon taxes and subsidies on emissions in Brazil," *Energy Policy*, vol. 211, p. 115095, Apr. 2026.
- [2] J. Ge and B. A. Furtado, "Modelling urban transition with coupled housing and labour markets," *Environment and Planning B: Urban Analytics and City Science*, p. 23998083231186623, July 2023.
- [3] B. Alves Furtado, "PolicySpace2: Modeling Markets and Endogenous Public Policies," *Journal of Artificial Societies and Social Simulation*, vol. 25, no. 1, p. 8, 2022.
- [4] M. Fuentes, C. J. Tessone, and B. A. Furtado, "Public Policy Modeling and Applications 2021," *Complexity*, vol. 2022, p. e9764151, May 2022. Publisher: Hindawi.
- [5] L. Mori Madeira, B. Alves Furtado, and A. Dill, "VIDA: A Simulation Model of Domestic Violence in Times of Social Distancing," *Journal of Artificial Societies and Social Simulation*, vol. 24, no. 4, p. 1, 2021.
- [6] B. A. Furtado, M. A. Fuentes, and C. J. Tessone, "Policy Modeling and Applications: State-of-the-Art and Perspectives," *Complexity*, vol. 2019, no. 1, pp. 1–11, 2019.
- [7] M. A. Fuentes, C. J. Tessone, and B. A. Furtado, "Public Policy Modeling and Applications," *Complexity*, vol. 2019, no. 1, pp. 1–4, 2019.
- [8] C. Gräbner, C. S. Bale, B. A. Furtado, B. Alvarez-Pereira, J. E. Gentile, H. Henderson, and F. Lipari, "Getting the best of both worlds? Developing complementary equation-based and agent-based models," *Computational Economics*, pp. 1–20, 2017.

Book chapters

- [1] L. Mori Madeira, B. Alves Furtado, and L. Mendonça Lopes Ribeiro, "Empowering Change: Harnessing Computer Simulations to Combat Violence Against Women in Brazil," in *The Palgrave Handbook of Criminology and the Global South*, pp. 1–17, Palgrave Macmillan, Cham, 2025.
- [2] B. A. Furtado, "Complex systems interplay: cities and institutions'," in *Handbook on Institutions and Complexity*, Edward Elgar Publishing, Apr. 2025.

- [3] Alves Furtado, Bernardo and Nadalin, Vanessa Gapriotti, "Policy comparisons and causality in an agent-based model," in *Advances in Social Simulation*, Springer Proceedings in Complexity, p. 11, Springer Nature Switzerland, 2024.
- [4] B. A. Furtado, "Simulation Modeling as a Policy Tool," in *The Routledge Handbook of Policy Tools*, Taylor & Francis, 2023.

Peer-reviewed conference proceedings (Springer)

- [1] B. A. Furtado, "The best causal model? A provocation on agent-based models as causal inference tools," in *Advances in Social Simulation*, Springer Proceedings in Complexity, pp. 174–183, Springer, 2026. Proceedings of the 20th Social Simulation Conference, Delft.
- [2] B. A. Furtado, L. Mori Madeira, E. Abrantes, V. Calvi Amaral Silva, and L. Ribeiro, "SobreVIDA: From data to dynamics and back in intimate partner violence (IPV) modelling," in *Advances in Social Simulation*, Springer Proceedings in Complexity, pp. 184–195, Springer, 2026.
- [3] G. L. Rocha Lima, B. A. Furtado, and O. F. Lopes, "Modelling environmental policy impacts on firms' carbon emissions," in *Advances in Social Simulation*, Springer Proceedings in Complexity, pp. 500–511, Springer, 2026.
- [4] K. Tvedt, B. A. Furtado, J. Ge, and Y. Kasahara, "Just energy transitions: A tale of phasing out oil in three cities," in *Advances in Social Simulation*, Springer Proceedings in Complexity, pp. 550–559, Springer, 2026.

Policy briefs (Ipea Radar)

- [1] B. A. Furtado, G. L. Rocha Lima, and J. V. L. Vasconcelos, "PolicySpace3: An open platform for ex ante public policy simulation," *Radar: Tecnologia, Produção e Comércio Exterior*, no. 82, 2026.
- [2] J. V. L. Vasconcelos, B. A. Furtado, and G. L. Rocha Lima, "An interactive dashboard for PolicySpace3 urban simulations," *Radar: Tecnologia, Produção e Comércio Exterior*, no. 82, 2026.
- [3] B. A. Furtado, G. L. Rocha Lima, and O. F. Lopes, "Simulating policy impacts on firms' carbon emissions," *Radar: Tecnologia, Produção e Comércio Exterior*, no. 80, 2025.

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