

# SERGIO PELAEZ

Email: [spelaez3@gatech.edu](mailto:spelaez3@gatech.edu) | LinkedIn: <https://www.linkedin.com/in/sergio-pelaez-148690147/> | Website: <https://sergiopelaez.netlify.app/>

## PROFESSIONAL PROFILE

I am a Research Fellow at Competitiveness, Technology and Innovation (CTI) division in the Inter-American Development Bank (IDB) where I support the knowledge agenda of the division through knowledge products and Technical Cooperations, implementing causal inference methods including RCTs, RDDs and DIDs and using large-scale novel data (e.g., administrative records) and methods (e.g., AI-generated synthetic data). I also maintain a parallel research agenda focused on studying the implications of emerging technologies, applying natural language processing to analyze unstructured data from patents, academic publications, and policy documents. I support this agenda with cutting-edge tools in causal inference, machine learning, agentic AI (Claude Code and Codex), and qualitative methods (e.g., interviews and qualitative coding).

## EDUCATION

**Ph.D. in Public Policy | Concentration in Science and Technology Policy | Minor in Analytics** GPA: 4.0/4.0 – High Pass Dissertation  
Georgia Institute of Technology, Atlanta, GA, USA Jan 2021 – Jan 2025

Dissertation Title: *"Value Expressions in Patent Text: A New Method and its Applications to Patent Valuation and Direction"*

**M.A. in Economics of Public Policy** GPA: 4.63/5.0  
Universidad del Rosario, Bogota D.C., Colombia Jul 2016 – Apr 2018

Thesis Title: *"Commodities' cycle and fiscal policy under inconsistent preferences"*

**B.A. in Economics and B.A. in Business** GPA: 4.2/5.0  
Universidad Autonoma de Manizales, Manizales, Colombia Jul 2009 – Jul 2015

## WORK EXPERIENCE

**Inter-American Development Bank (IDB)** Washington D.C.  
Research Fellow (CNS at PTI/CTI) Feb 2025 – Present

- Design and execute research projects evaluating innovation and productivity policies using multi-source datasets (administrative records, survey microdata, synthetic AI-generated data), causal inference methods (RCTs, RDDs, DIDs), and machine learning methods to inform evidence-based decision making across LAC region
- Produce working papers and research reports on business innovation, productivity, taxation, and productive development programs

**Georgia Institute of Technology** Atlanta, GA  
Graduate Research Assistant Jan 2021 – Jan 2025

- Conducted research on science, technology, and innovation economics, including technology transfer policies, industry research dominance, and patent valuation, resulting in multiple publications
- Developed scalable analytical methodologies using machine learning and large language models to analyze large-scale unstructured data from patents, research papers, and policy documents
- Designed and conducted stakeholder engagement including semi-structured interviews with inventors, patent lawyers, and patent examiners to validate analytical frameworks

**Inter-American Development Bank (IDB)** Washington D.C.  
Consultant (PEC at IFD/CTI) Oct 2019 – Feb 2025

- Awarded research funds after winning two competitive calls for research papers, subsequently hired to work on two additional papers examining relationships between firm innovation and market competition, exports, taxation, and productive development programs
- Applied causal inference techniques to survey microdata, building models to detect patterns in business innovation drivers and effects across LAC countries

**Technopolis Group** Bogota D.C., Colombia  
Consultant Jun 2023 – Jun 2024

- Co-led development of successful research proposal examining gender gaps in knowledge-intensive business services in Colombia
- Implemented econometric models using survey microdata and authored policy research reports

**Department of Economic Development** Manizales, Colombia  
Economic Advisor Mar 2020 – Jan 2021

- Led design and implementation of data-driven economic reactivation strategy during COVID-19 crisis utilizing real-time economic indicators and survey microdata
- Built analytical dashboard and reporting system for policy decision-making, serving as model framework replicated across other Colombian municipalities

**World Bank (STC at FCI)** Bogota D.C., Colombia  
Consultant Apr 2018 – Jul 2020

- Delivered analytical products for science, technology, and innovation policy projects including public expenditure reviews, private sector diagnostics, technology adoption surveys, and entrepreneurship ecosystem mapping
- Designed and conducted semi-structured interviews with government officials and private sector stakeholders
- Performed statistical analyses integrating survey data to produce policy-relevant findings for government presentations

## TEACHING EXPERIENCE

**Universidad del Rosario** Bogota D.C., Colombia  
Lecturer January 2017 – June 2020

- Introductory economics (bachelor's course) and macroeconomic policy (master's course)

**Universidad Nacional de Colombia** Manizales, Colombia  
Lecturer June 2015 – June 2016

- Introductory economics (bachelor's course)

## PROFESSIONAL AND PUBLIC SERVICE

---

- Journal referee: Research Policy (x6), Economics of Innovation and New Technology (x5), Economia-LACEA (x1), Journal of the Knowledge Economy (x1), Journal of Business Venturing (x1)
- Georgia Tech: Coordinator of the School of Public Policy's AI discussion group
- External volunteering: Peace volunteer at International Education Peace Volunteers

## HONORS AND AWARDS

---

- Received the Outstanding PhD Student Award from Georgia Tech
- Awarded a full PhD scholarship from the Colombian Government and Georgia Tech
- Won the 2017 NASPAA global simulation competition, resulting in a paid internship at the UN World Food Programme in Rome, Italy
- Distinguished as a lead student during undergraduate studies

## SKILLS AND INTERESTS

---

- **Econometric Methods:** Causal Inference (RCTs, DID, RDD), Panel Data Analysis, Impact Evaluation, Administrative and Micro Data, Survey Methodology
- **Programming & Data Analysis:** Agentic AI (Claude Code, Codex), Python, R, Stata, API Integration, Machine Learning, NLP
- **Project Management:** Economic Development Project Design, Monitoring & Evaluation, Results Matrices, Cost Benefit Analysis
- **Languages:** Spanish (Native), English (Fluent)

## PUBLICATIONS

---

### Peer-reviewed

- **Pelaez, S., & Gutiérrez, J. D.** (2025). The Gradual Impact of Sanctioning Cartels on Market Competition. *Journal of Industry, Competition and Trade*, 25(1), 6. <https://doi.org/10.1007/s10842-025-00442-z>
- **Pelaez, S., Verma, G., Ribeiro, B., & Shapira, P.** (2024). Large-scale text analysis using generative language models: A case study in discovering public value expressions in AI patents. *Quantitative Science Studies*, 1-26. Available at [https://doi.org/10.1162/qss\\_a\\_00285](https://doi.org/10.1162/qss_a_00285)
- **Pelaez, S., Hurtado, B., & Avila-Maeche, J.** (2024). Taxation and innovation: evidence from Colombia. *Economics of Innovation and New Technology*, 33(1), 166-184. Available at <https://doi.org/10.1080/10438599.2022.2145560>
- **Pelaez, S., Youtie, J., & Shapira, P.** (2022). Analyzing research outcomes and spillovers at a US nanotechnology user facility. *Journal of Nanoparticle Research*, 24(12), 243. Available at <https://doi.org/10.1007/s11051-022-05601-5>
- **Pelaez, S.** (2022). Innovación y exportaciones en los servicios basados en el conocimiento en Colombia. *Integración & Comercio*, 26(48), 168-203. <https://doi.org/10.18235/0004608>
- **Pelaez, S.** (2018). Ciclo de recursos naturales y política fiscal bajo preferencias inconsistentes. *Coyuntura Económica*. 48(1 y 2) Junio-Diciembre, pp. 13-78. Available at <http://hdl.handle.net/11445/3844>

### Preprint/working/submitted papers

- **Pelaez, S\*, Verma, G\*, Ribeiro, B., & Shapira, P.** (2024). Do Societal Promises Influence Patent Value? An Analysis of Inventions in Artificial Intelligence. Revise and Resubmit (R&R) at *Research Policy* and available at SSRN <http://dx.doi.org/10.2139/ssrn.4873074>
- **Hicks, D., Gupta, N., Souweidane, N., Pelaez, S., & Kingsley, G.** Technology Readiness Levels for Policy Making: Lessons from the Autonomous Vehicle Hype Cycle. Under Review at *Technological Forecasting and Social Change*
- **Zhenyu, G\*, Pelaez, S\*, Sivertsen, G., & Zhang, L.** Diverse Language of Innovation: Gender Differences in Patent Value Expressions. Under Review at the *Journal of Informetrics*
- **Pelaez, S., & Hicks, D.** (2024). Are Societal Promises in Science and Technology Substantiated? The Case of Value Expressions in Patents. Available at SSRN <http://dx.doi.org/10.2139/ssrn.4941820>

### Work in progress

- **Aparicio, G., Gerardino, M. P., Goni, E., Pelaez, S., Rosas, D., & Tuesta, H.** How effective are business training programs for entrepreneurs of necessity-driven startups? An RCT of Fondoempleo's Entrepreneurship Program
- **Cazor, A., Calvo, S., Goni, E., & Pelaez, S.** What Sustains Productivity in Micro, Small and Medium-sized Enterprises (MSMEs)
- **Cazor, A., Goni, E., Gonzales, A., & Pelaez, S.** The Determinants of Upward Mobility in the Venture Capital Investment Ladder
- **Pelaez, S.** The Fiscal Returns of Productive Development Programs
- **Pelaez, S., Widmaier, K., Tijssen, R., Sugimoto, C.** The New R&D Frontier: How Industry is Reshaping Research
- **Pelaez, S\*, Jeongyoon, J\*, Ceccagnoli, M., & Walsh, J.** More Disclosure, Better Inventions? Commercial Potential in University Invention Disclosures