# Tilsa Oré Mónago, PhD

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U.S. Permanent Resident (Green Card)

PhD Economist with 15+ years of experience building data-driven analytical solutions for energy markets, including pricing analysis, and market structure evaluation. Led multi-country competitive assessments at the World Bank Group and directed market studies at Peru's national competition authority. Skilled in synthesizing complex economic data into actionable, executive-ready narratives. Proficient in Python, machine learning, and AI tools. Media commentator (BBC Mundo, Telemundo). Bilingual (English/Spanish) with working knowledge of Portuguese.

## Core Competencies

- Energy Market Analytics: scenario analysis, pricing dynamics, time-series modeling, supply and demand modeling.
- Data Strategy and Advanced Analytics: Econometrics, machine learning, large-scale dataset construction, predictive modeling, competition models, external data source evaluation.
- Stakeholder Communication: Translating complex economic and competitive analyses into clear, actionable narratives for senior leadership, policymakers, and cross-functional teams.
- Technical Stack: Python (MLOps, LLMOps), R, Stata, Mathematica, Matlab, LaTeX, HTML; proficient in AI tools (Claude, large language model workflows).

## Professional Experience

- **Rice University's Baker Institute for Public Policy, Center for Energy Studies** | Houston, TX
  Fellow in Energy and Market Design (Jan. 2022–up to date)
  - Energy Market Data Science: Direct economic assessments of ERCOT's retail electricity market, constructing ZIP-code-level wholesale and retail datasets to evaluate pricing dynamics, market concentration, and competitive positioning across providers.
  - Data Strategy and Competitive Modeling: Develop predictive models—including Stackelberg competition frameworks—to quantify the impacts of market design on consumer welfare and competitive dynamics, delivering insights that inform strategic decision-making.
  - Strategic Advisory and Industry Monitoring: Advise policymakers and industry leaders on competitive risks, resource nationalism, and governance frameworks for critical mineral supply chains; track evolving industry trends and macroeconomic shifts.
  - Cross-Functional Partnerships: Independently secured over $140,000 in competitive funding (U.S. Department of State, Google exploreCSR) by navigating cross-institutional stakeholder relationships across government, academic, and industry partners.
  - Expert Communication and Media: Featured commentator for BBC Mundo and Telemundo Houston, distilling complex market dynamics and competitive shifts into clear insights for broad audiences.
  - Authored policy-relevant publications on energy market design, critical minerals, and climate finance, contributing to international dialogue on competitive dynamics in evolving markets.
- **The World Bank Group** | Washington DC
  Economist Consultant, Markets & Competition Global Team (Feb.2017–Jun 2021)
  - Competitive Landscape Analysis: Led empirical analyses of competition policy reforms across 8+ international jurisdictions, combining novel databases to quantify macroeconomic impacts of pro-competitive reforms and evaluate market structure dynamics.
  - Strategic Insights for Decision-Makers: Authored chapters in flagship World Bank publications, synthesizing competitive and regulatory data into clear recommendations on antitrust rules, competitive neutrality, and market reform priorities.
- **National Institute of Competition Defense and Intellectual Property Protection (INDECOPI)** | Lima, Peru
  Senior Economist and Head of the Economic Research Unit (May 2006–Jul 2010)
  - Competitive Intelligence Leadership: Directed the Economic Research Unit, managing a team of 7 economists in the execution of complex competition analyses to support high-stakes enforcement and regulatory decisions by the National Competition Commission.
  - Sector-Wide Competitive Monitoring: Led investigations into financial, telecommunications, and intellectual property industries to evaluate market concentration, pricing behaviors, and competitive dynamics, informing national regulatory frameworks.
- **Ministry of Transportation and Communications (MTC)** | Lima, Peru

Economic Adviser, Vice Ministry of Communications –Secretariat of Communications (Sep. 2005–Apr 2006)
- Prepared economic policy reports and recommendations for the Vice-Minister of Communications; coordinated statistical reporting on telecommunications sector performance indicators.

**Selected Research and Publications**

- **Market Competition and Industry Analysis:**
  - "Price Dispersion and Competition in Retail Electricity Markets." Working Paper / Rice University. (Modeling Stackelberg price competition and testing competitive dynamics using Texas ERCOT data).
  - "Critical Minerals in Latin America" & "Political Risk and Resource Nationalism in Latin American Mining and Minerals." Rice University's Baker Institute for Public Policy, 2024.
  - "Paving the Road for Competitive Green Hydrogen Hubs: Does Chile Have a Chance?" Baker Institute for Public Policy, 2023.
- **Competition Policy and Regulatory Strategy:**
  - "Competition Policy," Chapter 17. Handbook of Deep Trade Agreements. Washington, DC: World Bank, 2020.
  - "State Ownership and Competitive Neutrality," Chapter 3. Markets and People: Romania Country Economic Memorandum. Washington, DC: World Bank, 2020.
  - "Deep Versus Shallow PTAs: Rules Affecting Competition Dynamics—Antitrust, Competitive Neutrality, and Pro-Competition Economic Regulation." World Bank Group, 2020.
  - "Lessons from the introduction and implementation of competition policy in economies at different stages of development: the case of APEC economies," In: APEC Economic Policy Report 2008. APEC Economic Committee, Chapter 2, study developed by INDECOPI for the APEC Economic Report 2008.

**Academic Appointments & Expert Instruction**

- **Rice University** | Houston, TX
  Lecturer, Department of Economics & Department of Computer Science (Spring 2022 - present)
  - Advanced Methodological Instruction: Teach graduate-level Applied Econometrics for Energy Markets, Industrial Organization and the Energy Sector, Game Theory, and Probability and Statistics for Data Science.
  - Strategic Communication: Highly rated for the ability to translate complex game theory, imperfect competition models, and market dynamics into accessible, strategic frameworks for diverse audiences, including business executives and data scientists.
- **Universidad de Piura** | Lima, Peru
  Assistant Professor (Tenure-Track) & Undergraduate Program Director (Fall 2019 – Fall 2021)
  - Directed the undergraduate economics program and instructed core curriculum on Game Theory, Imperfect Competition, and Microeconomics.
- **American University** | Washington, DC
  - Adjunct Professorial Lecturer, Department of Economics (Fall 2018 – Summer 2019)
- **Stony Brook University** | Stony Brook, NY
  Graduate Instructor, Department of Economics (Summer 2014 – Summer 2018)

**Education**

Ph.D. in Economics, Stony Brook University, New York, 2018. Dissertation on consumer inertia: switching costs in network industries.
M.A. in Applied Economics, University of Oklahoma, Oklahoma, 2012.
M.A. in International Trade and Economic Cooperation, Kyung Hee University, South Korea, 2005.
B.Sc. in Economics, Pontificia Universidad Católica del Perú - PUCP, Peru, 2003.

**Fellowships and Professional Service**

- Fulbright Scholar (2010–2012); BARSA Fellowship; Korea International Cooperation Agency (KOICA) Fellowship.
- U.S. Department of State Federal Assistance Award (2024); Google exploreCSR Grants for Data Science Outreach (2022–2025).
- Program Committee Member, Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO); Co-Organizer, PhawAI.