

IGOR TEODORO HERNANDEZ ROSALES

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Research Fields: Energy Economics, Empirical Industrial Organization.

EDUCATION

- PhD, Economics, Rice University, 2022 (Expected).
- M.A., Economics, Duke University, 2013.
- B.A, Economics (*Cum Laude*), Universidad Católica Andrés Bello (Venezuela), 2007.

AWARDS

- Graduate Fellow, Baker Institute for Public Policy, 2016-2021.
- Runner-up, Best Student Paper Award. United States Association for Energy Economics (USAEE), 2021.
- Fulbright Scholarship, 2011-2013.
- Fundacion Gran Mariscal de Ayacucho (FUNDAYACUCHO) Scholarship, 2002-2007.

TEACHING EXPERIENCE

- Teaching Assistant, Rice University: Applied Econometrics for Energy Markets (G), Energy Economics (G), Political Economy of Oil and Gas (G), Transportation Economics (G).
- Teaching Assistant, Duke University: Advanced Microeconomic Analysis (G).
- Teaching Assistant, Universidad Católica Andrés Bello (Venezuela): Calculus (U), Statistical Inference (U), General Equilibrium and Welfare Economics (U).
- Instructor, Universidad Católica Andrés Bello (Venezuela): Microeconomics IV (U), Fall 2014. Industrial Organization (G), Fall 2013. Microeconomics I (U), Fall 2010.
- Guest Lecturer, Instituto de Estudios Superiores de Administración (IESA): Microeconomics (G), Spring 2014 – Spring 2016. Analysis of the Oil Sector (G): Fall 2014 – Spring 2016.

PROFESSIONAL EXPERIENCE

- Strategic Planning Analyst, Mercantil Servicios Financieros, Venezuela, May 2007 – May 2009.
- Financial Advisor, Mercantil Servicios Financieros, Venezuela, May 2009 – June 2011.
- Consultant. Inter American Development Bank, Venezuela, September 2014 – September 2015.
- Peer Reviewer, National Resource Governance Institute, July 2016 – September 2016.
- Adjunct Director, International Center for Energy and Environment, (IESA, Venezuela), Aug-2013-May 2016.
- Adjunct Professor, Instituto de Estudios Superiores de Administración (IESA), since June 2016.
- External Director, Grupo Zuliano (Investment Fund focused on Petrochemicals) 2015-2018.
- Consultant. ACCS Consultores, Venezuela, 2013-2016.

PUBLICATIONS

- “The collapse of the Venezuelan oil industry: The role of above-ground risks limiting foreign investment”, *Resources Policy* (Forthcoming). Joint with F. Monaldi and J. La Rosa.
- “A Cost-benefit Analysis of the Jones Act: Petroleum Product Tankers”, *Journal of Transport Economics and Policy*, 55, 65-84, (2021). Joint with K. Medlock, A. Mikulska and T. Temzelides.
- “Petroleum Challenges for Latin America and Africa in Light of the Asian Expansion”, in: *Reconfiguration of the Global South: Africa and Latin America and the 'Asian Century'*, (2017). E. Woertz (Ed.). Routledge. Joint with D. Guerrero.
- “Diversification in Latin American oil exporters: Was no intervention a better policy option?”, in: *Economic Diversification Policies in Natural Resource Rich Economies* (2016). S. Mahroum and Y. Al-Saleh (Eds.). Routledge. Joint with O. Manzano.
- “Desafíos petroleros para América Latina y África ante la expansión asiática”. *Revista CIDOB d'Afers Internacionals*, 114, 63-86. (2016). Joint with D. Guerrero.

WORKING PAPERS

“Regulation Changes and Auction Performance: The Case of Oil Leases in Brazil” (JMP), 2021,

This paper analyzes the effects of changes in fiscal and contractual regimes on the behavior of oil firms in Brazil. Contracts and taxes affect the timing in which firms receive their cash flow and influencing the moment they decide to invest and how much oil to extract. My model uses information from auction results, production and investment to identify firms' operational and investment costs, and later simulate bidding strategies, investment, project execution and government revenues. Results show that government revenues are on average 17.4% under a multi-attribute auction with concession contracts, compared to production sharing contracts, but these results are contingent on the cost recovery assumptions and the level of competition in the auction.

“Balancing Rent Extraction and Project Execution: The Case of Auctions for Oil Leases in Mexico”, 2021

This paper studies oil lease auctions where the winner is chosen by a formula combining royalties and exploratory commitments. The model analyzes the effects of changing the weights in the allocation formula on bidding strategies, project execution and government revenues, using the case of onshore marginal fields in Mexico. Higher weights on the royalty component induce more adverse selection, and together with uncertainty regarding exploration costs, lead to a low execution of projects. My model allows identifying operational and exploration costs from variations in the bid components, to recover their joint distribution. Results show that rules with less extreme weights across bid dimensions and placing a cap on the royalty component of the bid increases project execution and overall government's revenues by 36%, as well as firms' profits.

“The future of PDVSA: Challenges for the reconstruction of the oil sector in Venezuela”. Joint with F. Monaldi and J. La Rosa.

This paper examines the short and long run challenges for the operation of a National Oil Company (NOC) in Venezuela. The legal constraints related to economic sanctions, together with court processes opened, and the dire financial and operational situation imply that the company has limited scope to carry upstream activities. In addition, long-run challenges are related to the reduced demand prospects for hydrocarbons, which implies a strategic shift in the type of products and activities the company would carry as an operator, should a NOC remain in the country.

WORK IN PROGRESS

“Ensuring timely completion at renewable energy auctions: the case of Peru”.

“Cost Distortions and Financial Constraints: the case of PDVSA”, with K. Neill.

SELECTED TECHNICAL REPORTS

“Reforming Venezuela's oil and gas sector: An analysis of competing fiscal, contractual and institutional regimes” (2021). Chatham House. With J. La Rosa

“Venezuela and its Calamities: Add Covid-19 to the List” (2021). Baker Institute for Public Policy. Rice University. With J. La Rosa.

“Weathering Collapse: An Assessment of the Financial and Operational Situation of the Venezuelan Oil Industry” (2016). Center for International Development. Harvard University. 327. With F. Monaldi

“Keeping Up With the Jones Act! Changes A Pandemic and Price War Could Bring!”. Forbes blog. April 8, 2020
<https://www.forbes.com/sites/thebakersinstitute/2020/04/08/keeping-up-with-the-jones-act-changes-a-pandemic-and-price-war-could-bring/?sh=534f7b4c48ff>

“Venezuela Sells, But Who's Buying” (with José la Rosa). Forbes blog. July 8th, 2020
<https://www.forbes.com/sites/thebakersinstitute/2020/07/08/venezuela-sells-but-whos-buying/?sh=4f8492cb1a30>

"Venezuela and U.S. Sanctions: Some Considerations" International Association for Energy Economics (IAEE) Energy Forum. 3rd Quarter, 2018. ISSN 1944 - 3188
<https://www.iaee.org/documents/2018EnergyForum3qtr.pdf>

“Why is Venezuela's Oil Sector So Shattered?” Natural Resource Governance Institute Blog. February 8th, 2017.
<https://resourcegovernance.org/blog/why-venezuela-oil-sector-so-shattered>

CONFERENCES

- Southern Economic Association Annual Conference. Houston. November 2021.
- United States Association for Energy Economics (USAEE) Conference. November 2021
- Economics Graduate Student Conference. Washington University, St Louis. October 2021.
- International Association of Energy Economics Annual Conference. Paris. June 2021.
- Association of Environmental and Resource Economists. Miami. June 2021.
- United States Association for Energy Economics (USAEE) Conference. Denver, Colorado. November 2019
- United States Association for Energy Economics (USAEE) Conference. Washington, D.C. September 2018.
- Barcelona Centre for International Affairs workshop on Africa, Latin America and the “Asian Century”. Barcelona, Spain. January 2016
- Workshop on Institute of Urban and Regional Research NIBR workshop on Local content in the Latin American oil industry. Oslo, October 2013

REFEREE SERVICE

- Energy Economics, Resources Policy, Wires Computational Statistics.

ADDITIONAL INFORMATION

CERTIFICATES:

DataCamp “Data Scientist with R”. May 2021

CHARTERED FINANCIAL ANALYST PROGRAM. Passed Level I Exam. 2011

CERAWEEK conference participant, as part of the “Future Energy Leaders” Program.

COMPUTER SKILLS: Julia, Stata, R, MATLAB, Rats.

MEDIA COVERAGE

Univision News (February 2021), Financial Times (November 2019), Anadolu Agency (August 2019, August 2017), BBC News (May 2014, October 2014), The Globe and Mail (August 2014), CNN (April 2015).

REFERENCES

Professor Peter Hartley (Advisor)
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