



# OSMAR BOLIVAR

Telephone: +591 69900027

E-mail: [osmar.economics@gmail.com](mailto:osmar.economics@gmail.com)

LinkedIn Account: [linkedin.com/in/osmar-bolivar-rosales/](https://www.linkedin.com/in/osmar-bolivar-rosales/)

GitHub Account: [github.com/osmarbolivar](https://github.com/osmarbolivar)

My Website: [osmarbolivar.github.io/](https://osmarbolivar.github.io/)

## EDUCATION

<b>Master of Arts</b>   <i>Policy Economics</i> Williams College	2016 – 2017 USA
<b>Master of Science</b>   <i>Applied Economics</i> Universidad Andina Simón Bolívar	2015 – 2016 Bolivia
<b>Bachelor's Degree</b>   <i>Economics</i> Universidad Mayor de San Andrés	2006 – 2010 Bolivia
<b>Postgraduate Diplomas:</b>	
<i>Public Investment Projects</i> – Universidad Privada Boliviana	2015
<i>Impact Evaluation of Social Policies</i> – Universidad Católica Boliviana	2013
<i>Applied Economics</i> – Escuela Militar de Ingeniería	2012

## WORK EXPERIENCE

<b>Lead Specialist in Artificial Intelligence for Economic Research</b> MINISTRY OF ECONOMY AND PUBLIC FINANCE	Feb. 2024 – Ongoing Bolivia
<ul style="list-style-type: none"><li>Directed AI and data science initiatives to support evidence-based economic policymaking (e.g., predictive models and advanced analytics to enhance real-time macroeconomic monitoring and decision-making).</li><li>Proposed and led the establishment of the Ministry's AI Laboratory in cooperation with the Inter-American Development Bank (IDB), aimed at implementing a data governance framework and strengthening capabilities in high-frequency nowcasting, sentiment analysis, poverty estimation using satellite imagery, and other AI-driven projects.</li></ul>	
<b>Lead Researcher</b> MINISTRY OF ECONOMY AND PUBLIC FINANCE	May 2021 – Feb. 2024 Bolivia
<ul style="list-style-type: none"><li>Led research projects on socioeconomic trends and policy evaluation, utilizing advanced econometrics, machine learning, and big data analytics.</li><li>Provided direct technical advice to senior leadership, including the Minister of Economy.</li><li>Published peer-reviewed research articles in the Ministry's economic journal.</li></ul>	
<b>Consultant, Economic Integration in Latin America Project</b> DEVELOPMENT BANK OF LATIN AMERICA (CAF)	Apr. 2020 – Mar. 2021 Bolivia
<ul style="list-style-type: none"><li>Assessed the economic impact of transport infrastructure in Bolivia, Ecuador, and Paraguay using econometric and remote sensing methodologies.</li></ul>	
<b>Economist, Economic Modelling</b> UNIDAD DE ANÁLISIS DE POLÍTICAS SOCIALES Y ECONÓMICAS (UDAPE)	Aug. 2017 – Feb. 2021 Bolivia
<ul style="list-style-type: none"><li>Led modelling and analysis of macroeconomic and social policies, designing advanced statistical and econometric tools to support policy formulation.</li><li>Coordinated multi-institutional research with international organizations (CAF, UNFPA), resulting in influential policy reports and publications.</li></ul>	
<b>Consultant, Strengthening Economic Development Research</b> DEVELOPMENT BANK OF LATIN AMERICA (CAF)	Feb. 2018 – Oct. 2018 Bolivia
<ul style="list-style-type: none"><li>Applied spatial econometric techniques to evaluate local public investment effectiveness and its spillover effects on development outcomes.</li></ul>	

<b>Researcher</b>	Jan. 2015 – Aug. 2016
MINISTRY OF ECONOMY AND PUBLIC FINANCE	Bolivia
<ul style="list-style-type: none"> <li>Conducted rigorous econometric analysis of public policy, delivering key technical inputs for evidence-based decision-making.</li> <li>Published peer-reviewed research articles in the Ministry's economic journal.</li> </ul>	
<b>Economist, Real Sector</b>	Apr. 2013 – Dec. 2014
UNIDAD DE ANÁLISIS DE POLÍTICAS SOCIALES Y ECONÓMICAS (UDAPE)	Bolivia
<ul style="list-style-type: none"> <li>Analyzed sectoral data and produced empirical reports to inform national planning and real sector policy.</li> </ul>	
<b>Economist, Fiscal Sector</b>	Oct. 2012 – Dec. 2012
UNIDAD DE ANÁLISIS DE POLÍTICAS SOCIALES Y ECONÓMICAS (UDAPE)	Bolivia
<ul style="list-style-type: none"> <li>Analyzed fiscal sector data and produced reports supporting fiscal policy development and implementation.</li> </ul>	
<b>Technical Assistant, Fiscal Sector</b>	Sept. 2011 – Sept. 2012
UNIDAD DE ANÁLISIS DE POLÍTICAS SOCIALES Y ECONÓMICAS (UDAPE)	Bolivia
<ul style="list-style-type: none"> <li>Managed sectoral databases and generated statistical analyses to support fiscal policy formulation.</li> </ul>	

## PEER-REVIEWED JOURNAL ARTICLES

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- Bolivar, O. (2025). **High-frequency Inflation Forecasting: A Two-step Machine Learning Methodology**. *Latin American Journal of Central Banking*, In Press, Corrected Proof, 100172.
- Bolivar, O. (2024). **GDP Nowcasting: A Machine Learning and Remote Sensing Data-based Approach for Bolivia**. *Latin American Journal of Central Banking*, 5(3), 100126.
- Bolivar, O. & Huanto, C. (2023). **Geopolitical Risk Shocks: Macroeconomic Effects in Bolivia, Chile, and Peru**. *Cuadernos de Investigación Económica Boliviana*, 6(2): 62-83.
- Bolivar, O., Huanto, C. & Teran, R. (2023). **Inflation Expectations: Dynamics and Effects for South America**. *Cuadernos de Investigación Económica Boliviana*, 6(1): 3-24.
- Bolivar, O. (2022). **Fiscal Multipliers: Empirical Evidence for a Cost-Effective Allocation of Public Investment**. *Cuadernos de Investigación Económica Boliviana*, 5(2): 1-28.
- Bolivar, O. (2021). **Boyanza Tributaria: Relación con la sostenibilidad fiscal y estabilizadores automáticos**. *Cuadernos de Investigación Económica Boliviana*, 4(2): 53-95.
- Bolivar, O. (2016). **Bolivianization (De-dollarization) and Effectiveness of the Monetary Policy**. *Cuadernos de Investigación Económica Boliviana*, 1(2): 1-40.
- Bolivar, O. & D. Ugarte (2015). **Domestic Demand as Engine of the Economic Growth in Bolivia**. *Cuadernos de Investigación Económica Boliviana*, 1(1): 1-27.
- Ugarte, D. & Bolivar, O. (2015). **The Effect of Income Redistribution on Poverty Reduction of Bolivia**. *Cuadernos de Investigación Económica Boliviana*, 1(1): 1-25.
- Ugarte, D. & Bolivar, O. (2015). **La Relación Precio del Petróleo y Crecimiento Económico en Bolivia: El Rol de la Política Económica**. *Revista de Análisis del Banco Central de Bolivia*, 22(1): 9-40.

## BOOK CHAPTERS

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- Bolivar, O. & Mendez, C. (2025). **Predicting community-level poverty in Bolivia: Insights from satellite imagery, census data, and spatial modeling**. *Nagoya University (Ed.), Revisiting the Poverty-Growth-Inequality Triangle in the Post-Pandemic Era (in progress)*. Japan: Routledge – Taylor & Francis Group.
- Bolivar, O. (2020). **Evaluación de impacto de la infraestructura vial en el crecimiento económico: Una aproximación con base en información satelital de luminosidad para Bolivia**. CAF-UDAPE, Osmar Bolívar (Ed.), *Evaluación de impacto de la infraestructura vial en Bolivia* (pp. 11-70). La Paz, Bolivia.
- Bolivar, O. & Ugarte, D. (2020). **Evaluación de impacto de la infraestructura vial sobre las condiciones socioeconómicas de la población**. CAF-UDAPE, Osmar Bolívar (Ed.), *Evaluación de impacto de la infraestructura vial en Bolivia* (pp. 71-117). La Paz, Bolivia.

Ugarte, D. & Bolivar, O. (2018). **Descentralización en Bolivia: Eficacia y Externalidades**. CAF-INESAD-ABCE & Beatriz Muriel (Ed.), *Investigaciones para el Desarrollo Económico de Bolivia* (pp. 113-168). La Paz, Bolivia.

## PROCEEDINGS / WORKING PAPERS

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Bolivar, O. & Huanto, C. (2025). **Sentiment, Cryptocurrency and Inflation: A Transmission Chanel in Bolivia**. Available at SSRN.

Bolivar, O., Canavire-Bacarreza, G. & Balthrop. A. (2025). **Hit the Road Jack: High-Quality Roads, Poverty and the Middle Class in Ecuador**. *Proceeding Paper – 18th Meeting LACEA Impact Evaluation Network, 2025 RIDGE May Forum..*

Bolivar, O. (2024). **Weekly Inflation Forecasting: A Two-Step Machine Learning Methodology**. Available at SSRN.

Bolivar, O. & Huanto, C. (2024). **Tensiones Geopolíticas: Efectos Macroeconómicos en Bolivia, Chile y Perú**. *Proceeding Paper - Call for Papers: 2024 Meeting of Economists of Bolivia*, Central Bank of Bolivia.

Bolivar, O. (2023). **Evolución de la pobreza en las comunidades de Bolivia entre 2012 y 2022: Un enfoque de machine learning y teledetección**. *MPRA Paper from University Library of Munich*.

Bolivar, O. (2022). **Dinámica Inflacionaria, Crecimiento Económico y Empleo en los contextos de pandemia y pospandemia para América del Sur**. *Proceeding Paper - First Place in the Call for Papers: 2022 Meeting of Economists of Bolivia*, Central Bank of Bolivia.

Bolivar, O. (2022). **Roads illuminate development: Using nightlight luminosity to assess the impact of transport infrastructure**. *Research Department Working Papers 1910*, CAF - Development Bank of Latin America.

Bolivar, O. (2017). **Desdolarización en Bolivia: Interacción con la Política Monetaria y el Tipo de Cambio**. *Proceeding Paper - Call for Papers: 2017 Meeting of Economists of Bolivia*, Central Bank of Bolivia.

## HONORS AND AWARDS

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**First Place, 2023 Central Bank Award**, Center for Latin American Monetary Studies (CEMLA).  
For the research: “GDP Nowcasting: A Machine Learning and Remote Sensing Data-Based Approach for Bolivia”

**First Place, 2022 Meeting of Economists of Bolivia**, Central Bank of Bolivia.  
For the research: “Dinámica Inflacionaria, Crecimiento Económico y Empleo en los Contextos de Pandemia y Pospandemia para América del Sur”

**Finalist & Funding, 2020 Research Proposal Call**, Development Bank of Latin America (CAF).  
For the project: “Roads Illuminate Development: Using Nightlight Luminosity to Assess the Impact of Transport Infrastructure”

**Winner & Funding, 2018 Research Proposal Call**, Development Bank of Latin America (CAF).  
For the project: “Descentralización en Bolivia: Eficacia y Externalidades”

**First Place, 2015 Meeting of Economists of Bolivia**, Central Bank of Bolivia.  
For the research: “La Relación Precio del Petróleo y Crecimiento Económico en Bolivia: El Rol de la Política Económica”

## TEACHING EXPERIENCE

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<b>Fiscal Sector - Master in Applied Economics and Public Policy</b>	2024 - Current
Universidad Andina Simón Bolívar	Bolivia
<b>Econometrics - Time series</b>	2020
Universidad Privada Boliviana	Bolivia

## CERTIFICATIONS AND COURSES

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Certificate Program in Applied Generative AI — <b>Johns Hopkins University</b>	Ongoing
Deep Learning Specialization — <b>DeepLearning.AI</b>	2024

Machine Learning Specialization — <b>DeepLearning.AI &amp; Stanford University</b>	2023
Multidisciplinary Program in Data, Programming, and AI — <b>Buenos Aires University</b>	2022
Training Course on Space Technology for Bolivia — <b>Wuhan Research Institute of Posts and Telecommunications (China)</b>	2022
R and GIS (Programming in R for Geographic Information Systems) — <b>MappingGIS, Spain</b>	2020
Remote Sensing in QGIS (Satellite Imagery Processing) — <b>MappingGIS, Spain</b>	2019
Dynamic Stochastic General Equilibrium Models — <b>International Monetary Fund</b>	2018
Impact Evaluation of Social Policies — <b>Abdul Latif Jameel Poverty Action Lab (J-PAL)</b>	2014

## SKILLS

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**Languages:** Spanish (Native), English

**Programming/Software:** Python, R, QGIS, STATA, MATLAB, E-views

**Document Creation:** Microsoft Office, LaTeX, Markdown