

# RAFAEL FELIPE TORRES GAVIRIA

Pearson Institute Pre-Doctoral Scholar, Harris School of Public Policy.  
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## Education

### Universidad de los Andes

Jan. 2021 – Jun. 2022

*Cum Laude Master's degree in Economics (M.A.): GPA 4.9/5.0, Rank: 1/34.*

Bogotá, Colombia

**Selected Coursework (graduate level):** World Economic History, Advanced Econometrics, Advanced Long-Run Macroeconomics – Economic Growth; Advanced Game Theory; Advanced Microeconomics – General Equilibrium Theory; Machine Learning; Development Economics.

### Universidad de los Andes

Aug. 2017 – Jul. 2023

*Cum Laude in Physics (B.Sc.): GPA 4.61/5.0, Rank: 4/16.*

Bogotá, Colombia

*Minor in Astronomy*

**Selected Coursework:** Extragalactic Astrophysics, Particle Physics, Quantum Mechanics; Statistical Physics; Systems Biology; Mathematical Methods for Physics; Computational Methods for Physics.

### Universidad de los Andes

Jan. 2016 – Jun. 2020

*Bachelor's degree in Economics (B.A.): GPA 4.6/5.0, Rank: 2/115.*

Bogotá, Colombia

**Selected Coursework:** Economic History of the 20th and 21st Centuries; Political Economy; Intermediate Macroeconomics; Intermediate Econometrics; Intermediate Game Theory; Intermediate Microeconomics.

## Research Assistanships

### Harris School of Public Policy, University of Chicago

Jul. 2024 –

*Pre-Doctoral Scholar*

Chicago, Illinois, USA

- Supervised by Dr. James A. Robinson and Dr. Leander Heldring

### Vancouver School of Economics, University of British Columbia

Mar. 2023 – Jun. 2024

*Graduate Research Assistant*

Bogotá, Colombia

- Supervised by Dr. Felipe Valencia and Dr. Ana Tur-Prats; remote

### CEDE, Universidad de los Andes

Oct. 2022 – Jun. 2024

*Pre-Doctoral Scholar – STAR Program*

Bogotá, Colombia

- Supervised by Dr. Juan Sebastián Galán

### Vancouver School of Economics, University of British Columbia

Jun. 2022 - Sep. 2022

*Undergraduate Research Assistant*

Bogotá, Colombia

Supervised by Dr. Felipe Valencia and Dr. Ana Tur-Prats; remote

### CEDE, Universidad de los Andes

Jan. 2020 – Sep. 2022

*Undergraduate Research Assistant*

Bogotá, Colombia

- Supervised by Dr. Juan Sebastián Galán

## Working Papers

### Fear and Dreams: Understanding the non-Institutional sources of Leader Strategy

2024

- *NBER Working Paper 33011*
- *With: María Angélica Bautista, Juan Sebastián Galán, James Robinson & Ragnar Torvik*
- **Abstract:** Political leaders make policy choices which are often hard to explain via institutions. We use the behavior of Colombian paramilitary groups as an environment to study non-institutional sources of variation in how public good provision and violence are combined to control populations. We hypothesize that a significant source of variation stems from the social preferences of the paramilitary commanders. Reciprocators adopt a strategy of offering public goods in exchange for support, but also use violence to punish those who do not reciprocate back. Reciprocity, developed via childhood socialization, is a characteristic of rural “peasants”. We develop a model which generates these hypotheses and test them using a unique dataset compiled from transitional justice documents.

- CEDE Document 43
- **Abstract:** This paper examines the long-run effects of the rise, expansion, and collapse of the Mongol Empire. Through a combination of theoretical analysis and empirical investigation, and building a novel historical dataset, we demonstrate how the widespread violence and new trade opportunities introduced by the Mongol Empire contributed to Western Europe's ability to close and reverse the income and technological gaps with the more advanced Asian civilizations. Furthermore, our findings reveal that the effects of the Mongol Conquests persisted and intensified well into the 18th century. Consequently, we argue that the Mongol Invasions of the 13th century can be considered a fundamental cause behind the ascent of Europe and the subsequent decline of Asia. Moreover, the rise and fall of the Mongol Empire hold significant importance in understanding the transition from a Malthusian world to a world marked by sustained economic expansion and inter-regional income inequality. This research contributes to the fields of economic development and economic history by shedding light on the mechanisms driving long-term economic growth and the emergence of global economic disparities. By examining the historical context of the Mongol Empire, we provide a fresh perspective on the factors that propelled Europe's advancement and Asia's relative stagnation during this critical period. The insights gained from this study not only deepen our understanding of the forces shaping the global economy but also contribute to ongoing debates surrounding the roots of the Great Divergence.

## Work in progress

### Causal Inference using Geographic Boundaries as Discontinuities in Panel Data

- *With: David Arboleda-Cárcamo*

### Top of the Cosmic Ladder: on Extragalactic Distances and the Hubble Tension

2023

- \* **Abstract:** The accurate determination of the Hubble parameter remains an open problem in modern cosmology. In recent investigations, conflicting measurements of its present value (the Hubble Constant) have arisen from the analysis of the Cosmic Microwave Background and estimations from the cosmic distance ladder, leading to the emergence of the Hubble tension. The primary issue with the latter method lies in the measurement of distances to distant objects, while the former approach is highly dependent on the cosmological model. This study introduces a new global-cosmology-independent technique, named the "Hubble-Chains Method", for estimating extragalactic distances. Leveraging the Pantheon+ catalog of 1700 Type Ia Supernovae, we employ this method to estimate the distances to  $\sim 10^5$  radiosources from Gaia's MILLIQUAS catalog. Our findings reveal a redshift-dependent Hubble Parameter, suggesting an accelerating expansion of the Universe. Moreover, over different specifications, we can estimate the Hubble Constant to be  $68.14 \pm 0.24 \text{ km s}^{-1} \text{ Mpc}^{-1}$  under flat  $\Lambda$ CDM, and  $68.42 \pm 0.40 \text{ km s}^{-1} \text{ Mpc}^{-1}$  under Phantom  $w$ CDM, consistent with Universe ages of  $13.646 \pm 0.048 \text{ Gy}$  and  $13.648^{+0.079}_{-0.080} \text{ Gy}$ , respectively. In regard to the Hubble Tension, these results are inconsistent with Pantheon+ and SH0ES estimates for the local Universe, however, they are with measurements from the CMB. We also tested for non-uniformity in the expansion of the Universe and found no evidence contradicting the Cosmological Principle. Further investigations employing this methodology and data involve the refinement of cosmological models, Dark Energy parameter constraints, and testing the  $\Lambda$ CDM model.

## Awards

### Cum Laude in Physics

Bogotá, Colombia

Oct. 2023

*This distinction is given to students whose GPA ranks them in the top 3% of the historical average of their program's graduates over the past five years.*

### Juan Luis Londoño Price 2022

Bogotá, Colombia

Oct. 2023

*Best Master's Degree in Economics Thesis over the year preceding the award. Awarded by Universidad de los Andes.*

### Cum Laude Master's Degree in Economics

Bogotá, Colombia

Oct. 2022

*This distinction is given to students whose GPA ranks them in the top 3% of the historical average of their program's graduates over the past five years.*

### Fabio Sánchez Torres Award

Bogotá, Colombia

Dec. 2019

*Best research paper in Colombian economic history. Awarded by Universidad de los Andes*

### First Place: XVI National Forum of Students of Economics and Finance

Bogotá, Colombia

Oct. 2019

*Colombia's largest university-level economics research contest. Senior Category - Best undergraduate research paper. Organized by Colombia's Central Bank and Universidad del Rosario.*

**First Place: XV National Forum of Students of Economics and Finance****Bogotá, Colombia***Oct. 2018*

*Colombia's largest university-level economics research contest. Senior Category - Best undergraduate research paper. Organized by Colombia's Central Bank and Universidad del Rosario.*

**Academic Presentations**

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**XIX RIDGE Forum****Medellín, Colombia***Speaker**Dec. 2023*

*Organized by the Research Institute for Development, Growth, and Economics (RIDGE). The event took place at Universidad EAFIT in Medellín, Colombia. Presented: Fear and Dreams: Understanding the non-Institutional sources of Leader Strategy.*

**CEPR & Bank of Spain: IX Economic History Seminar****Madrid, Spain***Speaker**Sep. 2023*

*Organized by the Bank of Spain and the Center for Economic and Policy Research (CEPR). The event took place at the Bank of Spain in Madrid, Spain. Presented: Horsemen of the Apocalypse: The Mongol Empire and the Great Divergence.*

**XVIII RIDGE Forum****Bogotá, Colombia***Speaker**Dec. 2022*

*Organized by the Research Institute for Development, Growth, and Economics (RIDGE). The event took place at Universidad de los Andes in Bogotá, Colombia. Presented: Horsemen of the Apocalypse: The Mongol Empire and the Great Divergence.*

**92nd SEA Annual Meeting****Fort Lauderdale, FL, USA***Speaker**Nov. 2022*

*Organized by the Southern Economic Association (SEA). The event took place at Fort Lauderdale Marriott Harbor Beach & Spa in Fort Lauderdale, Florida. Presented: Horsemen of the Apocalypse: The Mongol Empire and the Great Divergence.*

**27th Annual LACEA Meeting****Lima, Perú***Speaker**Nov. 2022*

*Organized by the Latin American and Caribbean Economic Association (LACEA). The event took place at Universidad del Pacífico in Lima, Perú. Presented: Horsemen of the Apocalypse: The Mongol Empire and the Great Divergence.*

**IX UDEP Workshop for Young Economists****Lima, Perú***Speaker**Aug. 2022*

*Organized by the Vancouver School of Economics and Universidad de Piura (UDEP). The event took place at Universidad de Piura in Lima, Perú. Presented: Horsemen of the Apocalypse: The Mongol Empire and the Great Divergence.*

**Teaching Experience**

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**Adjunct Professor - Intermediate Macroeconomics – Economic Growth****Jun. 2023 - Jul. 2023***Summer School, Universidad de los Andes***Teacher Assistant - Advanced Econometrics (Graduate)****Aug. 2023 - Jun. 2024***Lecturer: Manuel Fernández***Teacher Assistant - Advanced Macroeconomics – Economic Growth (Graduate)****2021-2024***Lecturer: Hernando Zuleta (2021-2023) & Mateo Uribe (2024); Jan.-Jun. Term.***Teacher Assistant - Intermediate Macroeconomics – Economic Growth****2021-2023***Lecturer: Daniel Mejía (2021) & Hernando Zuleta (2022-2023); Aug.-Dec. Term***Teacher Assistant - General Economic History****Jan. 2023 - Jun. 2023***Lecturer: Juan Sebastián Galán & Fabio Sánchez***Teacher Assistant - Colombian Economic History****Aug. 2023 - Dec. 2023***Lecturer: María del Pilar López-Urbe***Teacher Assistant - The Political Underpinnings of Prosperity and Poverty****2020-2022***Lecturers: Leopoldo Fergusson, Pablo Querubín & James Robinson; Bogotá Summer School in Economics***Undergrad Teaching Assistant - Precalculus****Aug. 2017 - Dec. 2017***Lecturers: Zeljka Ljubic***Undergrad Teaching Assistant - History of Economic Thought****Aug. 2017 - Dec. 2017***Lecturers: Jimena Hurtado & Andrés Felipe Sierra***Undergrad Teaching Assistant - Ethics, Justice & Public Policy****Jan. 2017 - Jun. 2017***Lecturers: Jimena Hurtado***Undergrad Teaching Assistant - Introduction to Government****Aug. 2016 - Dec. 2016***Lecturers: Sebastián Bitar*

## Other Skills

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### • Programming

- \* Python (Advanced)
- \* Stata (Advanced)
- \* ArcGIS (Advanced)
- \* QGIS (Advanced)
- \* L<sup>A</sup>T<sub>E</sub>X (Advanced)
- \* C++ (Comfortable)
- \* MATLAB (Comfortable)
- \* Java (Basic)

### • Languages

- \* Spanish (Native)
- \* English (C2 Level - Fluent)
- \* German (A2 Level - Basic)
- \* Russian (A1 Level - Basic)

## Academic References

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### Professor *James A. Robinson*

Reverend Dr. Richard L. Pearson Professor of Global Conflict Studies.  
Institute Director, The Pearson Institute for the Study and Resolution of Global Conflicts.  
Harris School of Public Policy and Department of Political Science,  
The University of Chicago.  
1307 East 60th Street, Chicago, IL 60637.  
Email: jamesrobinson@uchicago.edu.

### Professor *Juan Sebastián Galán*

Assistant professor, Department of Economics, Universidad de los Andes.  
Cra 1 No 18A - 12. Bogotá, Colombia.  
Email: ju-galan@uniandes.edu.co.

### Professor *Leander Heldring*

Associate Professor, Kellogg School of Management  
Northwestern University  
2211 Campus Drive, Evanston, IL.  
Email: leander.heldring@kellogg.northwestern.edu.

### Professor *Hernando Zuleta*

Full professor, Department of Economics, Universidad de los Andes.  
Faculty Dean, Department of Economics  
Cra 1 No 18A - 12. Bogotá, Colombia.  
Email: h.zuleta@uniandes.edu.co.

### Professor *Felipe Valencia*

Assistant Professor, Vancouver School of Economics  
University of British Columbia  
6000 Iona Drive, Office 114  
Vancouver, BC, Canada.  
Email: felipe.valencia@ubc.ca.

### Professor *Beatriz Sabogal*

Associate professor, Department of Physics, Universidad de los Andes.  
Director of the Undergraduate Program in Physics  
Cra 1 No 18A - 12. Bogotá, Colombia.  
Email: bsabogal@uniandes.edu.co.