Nicolas Franz-Pattillo

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Career Profile

Economist with a Ph.D. from the University of British Columbia and extensive experience in monetary policy, macroeconomic modeling, and financial stability analysis at the Central Bank of Chile. Senior Economist working on the development and application of DSGE and other quantitative models for policy analysis, including calibration, scenario design, and projections of credit and financial variables under alternative macroprudential policy paths. Strong background in monetary economics, optimal policy, Markov-switching models, and applied quantitative methods.

My work combines academic research in monetary policy and macroeconomic dynamics with hands-on central-bank policy applications. I have developed reproducible modeling and data infrastructure in MATLAB, Dynare, Python, and related tools, and regularly translate quantitative analysis into results that can support senior policymakers. Experienced working independently and collaboratively across technical teams, with international academic experience and fluent English and Spanish.

Career Highlights

Developed and applied DSGE models for macro-financial policy analysis at the Central Bank of Chile, including calibration and scenario-based projections of credit and financial variables under alternative macroprudential policy paths to inform the countercyclical capital buffer (CCyB).

Architected a governed macro-modeling platform for DSGE and VAR models in MATLAB/Dynare, combining model execution, semantic model and variable cataloging, lineage tracking, and reproducible outputs for quantitative policy analysis.

Conduct research on monetary policy and macroeconomic dynamics, including optimal policy under loose commitment and the zero lower bound, optimal inflation targets, and a Markov-switching framework for macro-financial projections and macroprudential policy analysis.

Conduct macro-financial risk analysis for the Financial Stability Area, including network-based measures of financial interconnectedness and concentration using national-accounts data by institutional sector.

Designed reproducible data and visualization infrastructure in Python and related technologies, automating the ingestion, standardization, and dissemination of quantitative economic and financial data.

Work Experience

CENTRAL BANK OF CHILE (Santiago, Chile)

Financial Stability Area

Senior Economist, September 2019 – present

Developed and applied DSGE models for macro-financial policy analysis, calibrating and running scenario-based projections of credit and financial variables under alternative macroprudential policy paths to inform the countercyclical capital buffer (CCyB).

Architected a governed macro-modeling platform to run and catalog DSGE and VAR models in MATLAB/Dynare, including model orchestration and runtime infrastructure, semantic model and variable cataloging, lineage tracking, and reproducible outputs. Developed an interactive visualization tool for historical shock decompositions, forecasts, and impulse responses to communicate model results to policymakers.

Conduct macro-financial risk analysis for the Financial Stability Area, including network-based interconnectedness metrics such as PageRank centrality and concentration indices using national-accounts data by institutional sector. This work complements traditional bilateral-exposure analysis in the assessment of systemic risk.

Developed a Markov-switching framework for macro-financial projections and macroprudential policy analysis, using the RISE toolbox to study differences in macro-financial dynamics across crisis and non-crisis regimes.

Coordinated the Chile meeting of the Consultative Group of Directors of Financial Stability (CGDFS), a specialized research network under the Consultative Council for the Americas (BIS), bringing together heads of financial stability from central banks across the Americas.

Designed and implemented an automated data pipeline in Python and GitHub Actions that ingests and standardizes national-accounts data from the Central Bank's statistical API, together with an interactive visualization layer using SvelteKit, D3.js, and TypeScript for internal dissemination of quantitative diagnostics.

Referee for the Central Bank of Chile's working paper series (Documentos de Trabajo del Banco Central de Chile, DTBC).

UNIVERSITY OF BRITISH COLUMBIA (Vancouver, Canada)

Vancouver School of Economics

FDZ-IAB Data Access Point Administrator, September 2018 – September 2019

Administered secure on-site access to confidential German administrative labor-market microdata (FDZ-IAB) for researchers, managing data security protocols and researcher compliance with German data-protection requirements.

Research Assistant, Department of Economics – Profs. Paul Beaudry and Jesse Perla, September 2015 – 2018

Supported research on macroeconomic theory and computational methods, including model coding and numerical solution methods.

CENTRAL BANK OF CHILE (Santiago, Chile)

Economic Advisor to the Deputy Governor, Manuel Marfán Lewis, November 2009 – July 2013

Served as a de facto research assistant to the Deputy Governor, managing large quantities of information across departments to independently cross-check and balance the analysis provided by Bank staff ahead of policy meetings.

Developed independent quantitative analysis to inform the Deputy Governor's policy views, including work on the fundamentals of the exchange rate and the term structure of onshore interest rates in Chile.

UNIVERSITY OF CHILE (Santiago, Chile)

Research Assistant, Department of Economics – Profs. Joseph Ramos, Manuel Agosin, and Oscar Landerretche Moreno, June 2008 – November 2009

Contributed as research assistant to *Macroeconomía I: Material de Estudio* (Bustos, Coble, and Landerretche, 2008), a teaching manual for the Department of Economics' undergraduate macroeconomics sequence.

Executive producer of *La Bolsa Electoral*, a political prediction market developed by the Faculty of Economics and Business (FEN) of the University of Chile, in which participants traded contracts on electoral outcomes so that market prices revealed real-time, incentive-compatible probabilities of presidential election results.

LATINSOURCE NETWORK OF INDEPENDENT ADVISORS (Santiago, Chile)

Research Assistant for the Chilean Advisor, Oscar Landerretche Moreno, August 2008 – November 2009

Research and Policy Contributions

WORKING PAPERS

"Optimal monetary policy under loose commitment and the zero lower bound." Mimeo, Central Bank of Chile (DTBC).

SELECTED POLICY CONTRIBUTIONS AND NOTES

"Implementation Framework for the Countercyclical Capital Buffer." Economic Policy Document. November 2024. Central Bank of Chile.

RESEARCH IN PROGRESS

Optimal inflation target and the zero lower bound. Studies how the optimal choice of inflation target should adjust once the probability of hitting the zero lower bound is taken into account, and the resulting welfare implications for countries with different macroeconomic characteristics.

A Markov-switching environment for macro-financial projections and macroprudential policy analysis. Uses the RISE toolbox (Junior Maih) to calibrate crisis and non-crisis regimes in a small-scale Markov-switching model, quantifying the benefits of macroprudential policy across regimes.

Network analysis of the Chilean financial system. Applies PageRank centrality to national-accounts data by institutional sector to identify which agents concentrate structural importance in the network of financial exposures, and how this position has evolved over time. The project is evolving into the use of maximum-entropy network reconstruction methods to infer bilateral exposures at the agent level, using more disaggregated – albeit scattered – administrative records.

PROFESSIONAL SERVICE

Referee, Documentos de Trabajo del Banco Central de Chile (DTBC) working paper series.

Education

Ph.D., Vancouver School of Economics, University of British Columbia, May 2024. Dissertation: *Essays on Optimal Monetary Policy*.

M.A. Economics, Vancouver School of Economics, University of British Columbia, 2014.

B.A. Economics, School of Business and Economics, University of Chile, 2009.

Professional Development

Tools for Macroeconomists: The Essentials, London School of Economics, August 2015.

Tools for Macroeconomists: Advanced Tools, London School of Economics, August 2015.

Teaching Experience

University of Chile, Instructor – International Finance, Master of Finance (2023).

University of British Columbia, Instructor – ECON 302, Intermediate Macroeconomics, undergraduate (2018, 2019).

University of British Columbia, Teaching Assistant – 10 undergraduate and graduate courses in macroeconomics, monetary theory, and international finance, including ECON 502 (M.A. Macroeconomics), ECON 546 (Monetary Theory), and ECON 556 (International Finance) (2015–2019).

University of Chile, Teaching Assistant – 9 undergraduate and graduate courses in macroeconomics, microeconomics, calculus, and algebra, including Economic Policy and the Master in Public Policy program (2006–2012).

Skills

Macroeconomic modeling: MATLAB, Dynare, IRIS, Stata, EViews.

Programming and data: Python, R, SQL, NoSQL, Git/GitHub, JavaScript, TypeScript, Svelte/SvelteKit, Node.js/npm, HTML, CSS.

Other tools: LaTeX, VS Code.

Languages: English (fluent), Spanish (native).

References

Rosario Celedón – Board Member, Fondo Autónomo de Protección Previsional (FAPP); former Head, Financial Stability Area, Central Bank of Chile (direct supervisor). rceledonf@gmail.com

David Coble – Economist, External Policy Division (SPRXP), International Monetary Fund; former manager at the Central Bank of Chile. dcoble@imf.org

Oscar Landerretche Moreno – Department of Economics, University of Chile. landerretche@econ.uchile.cl

Manuel Marfán Lewis – Former Deputy Governor, Central Bank of Chile. mmarfan@outlook.com

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