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Central Bank of Chile

I am writing to apply for Senior Economist position at Central Bank of Chile.

I am an economist with a strong interest in macroeconometric issues. The research topics that I have recently worked on include (i) applied time series econometrics; (ii) effects of oil price shocks on macroeconomic variables in the euro area and its main countries; and (iii) analysis and forecasts of macroeconomic variables (especially in the euro area and Spain). The findings of these research have served as a basis for papers that have been accepted for publication in peer-reviewed journals.

I have worked for twelve years as a Research Analyst at University Carlos III de Madrid, applying different time series techniques in the analysis and forecasts of macroeconomic variables (GDP, inflation, IPI, etc.), including Bottom-Up procedures in hierarchical structures. In such capacity, I was in charge of designing and implementing econometric models, as well as of writing periodical reports in Spanish and English.

I have received a bachelor's and master degrees in economics from the National University of Colombia, and doctorate degree in economics from the University of Salamanca. My previous research has focused on the study of the effects of oil price shocks on consumer and industrial prices in the euro area and its main economies. It has shown, for example, the relevance of assuming the oil price as an exogenous variable in economies like Spain and the euro area (rather than endogenous as in the case of the U.S. economy), supporting the use of transfer function and restricted vector autoregressive models. Thus, the methodology proposed in one of the papers[1] allows us to forecast oil price under different scenarios (using fixed-interval smoother) and to assess the risk of deflation. On the other hand, the resulting analysis in other papers[2] shows that the effect of oil price shocks on inflation in the euro area does not come from higher industrial

[1] Castro, C., Jerez, M., and Barge-Gil, A. (2016). The deflationary effect of oil prices in the euro area. *Energy Economics*, 56:389–397.

[2] Castro, C. and Jiménez-Rodríguez, R. (2017). Oil price pass-through along the price chain in the euro area. *Energy Economics*, 64:24–30. and Castro, C., Jiménez-Rodríguez, R., Poncela, P., and Senra, E. (2017). A new look at oil price pass-through into inflation: evidence from disaggregated European data. *Economia Politica*, 34(1):55–82.

costs but rather depends on the reaction or behavior of consumers.

Based on my previous research, I am currently working on four issues: (i) investigating the (negative) time-varying relationship between oil price changes and exchange rates in the euro area; (ii) evaluating the sensitivity of inflation to alternative scenarios about future oil price and the consequences of the common monetary policy on inflation convergence and price competitiveness among the 19 euro area members; (iii) studying the effects of oil price movements by regions in Spain; and (iv) analyzing and forecasting GDP, inflation and monetary policy in the Colombian economy.[3]

In short, my interests include analysis and forecast of macroeconomic variables through econometric models, (especially time series techniques like ARIMA, transfer function, VAR, Smoothing, Bayesian analysis, etc.), and the effects of global commodities (especially oil) price movements on the macroeconomic variables of developing countries for which, as in Chile's case, commodities are important exports.[4] I think that my interests and experiences could be interesting for the team at the Bank.

I attach for your review my resume, three published papers and three letters of reference.

I look forward to hearing from you at your earliest convenience.

Sincerely,

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[3] For example, I am using the methodology in Castro, et.al. (2016) to introduce paths for future prices of oil in the analysis and forecasts of macroeconomic variables in Colombia. Currently, I am writing monthly reports, available in https://cecarozo.github.io/cesar.castro.

[4] A key issue in these research is the use of programming languages like **R** (which allows reproducible research), LaTeX and Matlab.