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Education

Rutgers University, Ph.D. in Economics, New Brunswick (Expected) May 2022
Dissertation Title: *Essays on Foreign Reserves, Liquidity and Pledgeability*
Universidad de los Andes, Colombia, M.A. in Economics 2011
Universidad de los Andes, Colombia, B.A. in Economics (Cum Laude Graduate) 2009

Fields

International Macroeconomics (Primary Field), Monetary Economics

References

Distinguished Professor of Economics

Roberto Chang
Department of Economics, Rutgers University
chang@economics.rutgers.edu

Distinguished Professor of Economics

Michael David Bordo
Department of Economics, Rutgers University
bordo@economics.rutgers.edu

Professor of Economics

Todd Keister
Department of Economics, Rutgers University
keister@economics.rutgers.edu

Senior Economist

Rhiannon Sowerbutts
Bank of England
rhiannon.sowerbutts@bankofengland.co.uk

Research Experience

Banco Central de Chile <i>PhD Internship, Programa de Visitas</i>	Summer 2021
Banco de México , <i>PhD Internship, Programa Interno de Verano</i>	Summer 2020
Bank of England , <i>PhD Internship Program</i>	Summer 2019
Distinguished Professor Roberto Chang , <i>Research Assistant</i>	Spring 2020
Distinguished Professor Michael D. Bordo , <i>Research Assistant</i>	Fall 2018 - Currently

Teaching Experience

Rutgers University , <i>Teaching Assistant</i> , Global Financial Crises, Econometrics, etc.	2017 - 2021
Rutgers University , <i>Lecturer (Recitation)</i> , Macroeconomic Theory II (Graduate Course)	Spring 2018
Rutgers University , <i>Lecturer (Recitation)</i> , Macroeconomics I (Graduate Course)	Fall 2017
Universidad de los Andes , <i>Lecturer</i> , Stata Workshop (Undergraduate Course)	2011 - 2014

Working Papers

Foreign Reserves, Fiscal Capacity and Lender of Last Resort (*Job Market Paper*)

Why do emerging markets accumulate foreign reserves for precautionary purposes while advanced economies do not? In this paper, I develop a three-period model of an economy subject to aggregate liquidity shocks. My results show that, in contrast to advanced economies, developing countries accumulate reserves for precautionary purposes because they lack the sufficient fiscal capacity - ability to extract resources from its citizens - to provide liquidity during crises successfully. Moreover, I present empirical evidence consistent with this argument. This paper provides a novel rationale for reserves accumulation which, in contrast to the predominant view in the literature, explains endogenously why reserves accumulation as a self-insurance mechanism is mainly observed in developing countries. In terms of policy, it shows that overcoming original sin, avoiding sudden stop episodes, and being fiscally credible, without improving fiscal capacity, may not be sufficient to eliminate the need for foreign reserves.

Pandemics, Incentives, and Economic Policy: A Dynamic Model (NBER WP No.28636)

(with Roberto Chang, Rutgers University and NBER, and Andrés Velasco, LSE)

The dynamics of a pandemic depend on individual decisions about, for instance, social distancing. In making these decisions, individuals respond to the incentives they face, including economic ones. This implies that economic policy can help not only by alleviating economic losses due to the pandemic but also by influencing the pandemic's trajectory itself via incentives. To investigate this idea, we develop a dynamic equilibrium model of an economy subject to a pandemic. In the model, individuals choose whether to work in the market or stay at home; market participation yields higher current pay but also a higher risk of infection. In turn, infection rates depend on the extent of market participation, as in dominant SIR models. We use the model to investigate how pandemic dynamics depend on aspects of the model which have no bearing in typical SIR models. In particular, forward looking behavior and expectations can result in multiplicity of equilibria. A practical lesson is that incentives embedded in fiscal policy can influence the evolution of the pandemic. To illustrate, we show that a fiscal package resembling the U.S. CARES Act can result in two waves of infection.

Work in Progress

Stock versus Flow? Foreign reserves and the Global Financial Crisis

Central banks in emerging markets argue that they accumulate foreign reserves, in part, to meet balance of payments financing needs. However, this explanation is at odds with several countries' reluctance to deplete their foreign reserves stock during acute liquidity episodes. I argue that reserves not only provide a country with liquidity services, but they also increase a country's solvency. Thus, facing a liquidity shock, a monetary authority will only sell foreign reserves if by doing so, it doesn't jeopardize its' solvency. I provide empirical evidence for 38 countries that solvency concerns, measured by external balance sheet exposure, drove the depletion of foreign reserves during the Global Financial Crisis.

Liquidity Regulation: The last taxi at the station?

(with Rhiannon Sowerbutts, Bank of England)

Usability of liquidity requirements, such as the Liquidity Coverage Ratio, during periods of stress is yet to be tested. Using a unique UK bank level dataset between 2011 and 2014, we take advantage of increased uncertainty caused by the European sovereign debt crisis and a back then active liquidity regulation in the UK, to provide empirical evidence to Goodhart's last taxi at the station puzzle. Five different empirical results suggest that banks during this stress period in the UK didn't consider their liquidity buffer to be completely usable. This evidence strengthens concerns on whether liquidity requirements make banks more resilient.

Rules versus Discretion: A Textual Analysis of FOMC Transcripts

(with Michael D. Bordo and Klodiana Istrefi)

Policy Briefs, Webinars, and other policy related activities

COVID-19 in Colombia: Impact and Policy Responses (with Mauricio Cárdenas S.)

Center for Global Development, CGD Notes July 24th 2020. To have access to the full document see [here](#), and to its blog entry see [here](#)

De Aislamientos Y Curvas: Se Desplaza La Epidemiológica, Mas No Se Aplana, Mientras Que La Económica Se Hunde (with Mauricio Santa María, Carlos Prada and Ekaterina Cuéllar) ANIF Weekly Report April 28th, 2020. To have access to the full document (behind a paywall) see [here](#), and to an op-ed entry see [here](#)

El impacto del COVID-19 en el mercado laboral colombiano – Webinar organized by elempleo.com. You can find the YouTube recording [here](#)

Honors and Awards

Rutgers University, Hiroki Tsurumi Graduate Dissertation Award, May 2021

Rutgers University, Dorothy Rinaldi Graduate Student Award, May 2020

Rutgers University, Sydney Brown Prize in Economics, May 2018

Rutgers University, Excellence Fellowship, 2016 - 2021

Universidad de los Andes, Colombia, Augusto Cano Scholarship, Fall 2009

Universidad de los Andes, Colombia, Cum Laude Graduate, Fall 2009

Professional Experience

Ministerio de Hacienda y Crédito Público, Colombia, *Advisor to Deputy Minister*

2014 – 2016

EConcept AEI, Colombia, *Economist*

2012 – 2014

Skills

Computational: Stata, Matlab, ArcGis,

Languages: English (fluent), Spanish (native), French (conversational)