The Macroeconomic Implications of Corporate Debt Contracts

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Introduction. Firms in modern economies often face financial covenants in their debt contracts. For example, in the United States, around 60% of large publicly traded non-financial firms have covenants imposing borrowing limits linked to their operating earnings (Lian and Ma, 2021).[1] These financial covenants have an important impact on firms' operations (Roberts and Sufi, 2009; Nini, Smith and Sufi, 2012). A number of companies state in their annual reports that "Our debt agreements contain restrictions that limit our flexibility in operating our business."[2]

These financial covenants in debt contracts are not hard constraints, in the sense that they exhibit violations. When violations happen, creditors tend to take actions to preserve value for repayment, instead of simply cutting credit supply to enforce debt limits (see, for example, Nini, Smith and Sufi, 2012). This evidence stands in contrast with mainstream models used for macroeconomic analysis, which focus on environments where firms face hard borrowing limits or collateral constraints that determine investment once they are binding.

Our goal in this project is to study the macroeconomic implications of these types

[1]Examples include 3M, AAR Corp, AT&T, Best Buy, Caterpillar, CBS, Comcast, Costco, Disney, Equifax, Expedia, FedEx, GE, General Mills, Gilead, Hershey's, Home Depot, Honeywell, HP, IBM, Kohl's, Lear, Macy's, Marriott, Merck, Northrop Grumman, Pfizer, Qualcomm, Safeway, Sprint, Staples, Starbucks, Target, Time Warner, T-Mobile, U.S. Steel, Verizon, Walmart, Xerox, and Yum Brands.

[2]See for example HCA Healthcare, Warner Music Group, and Aramark.

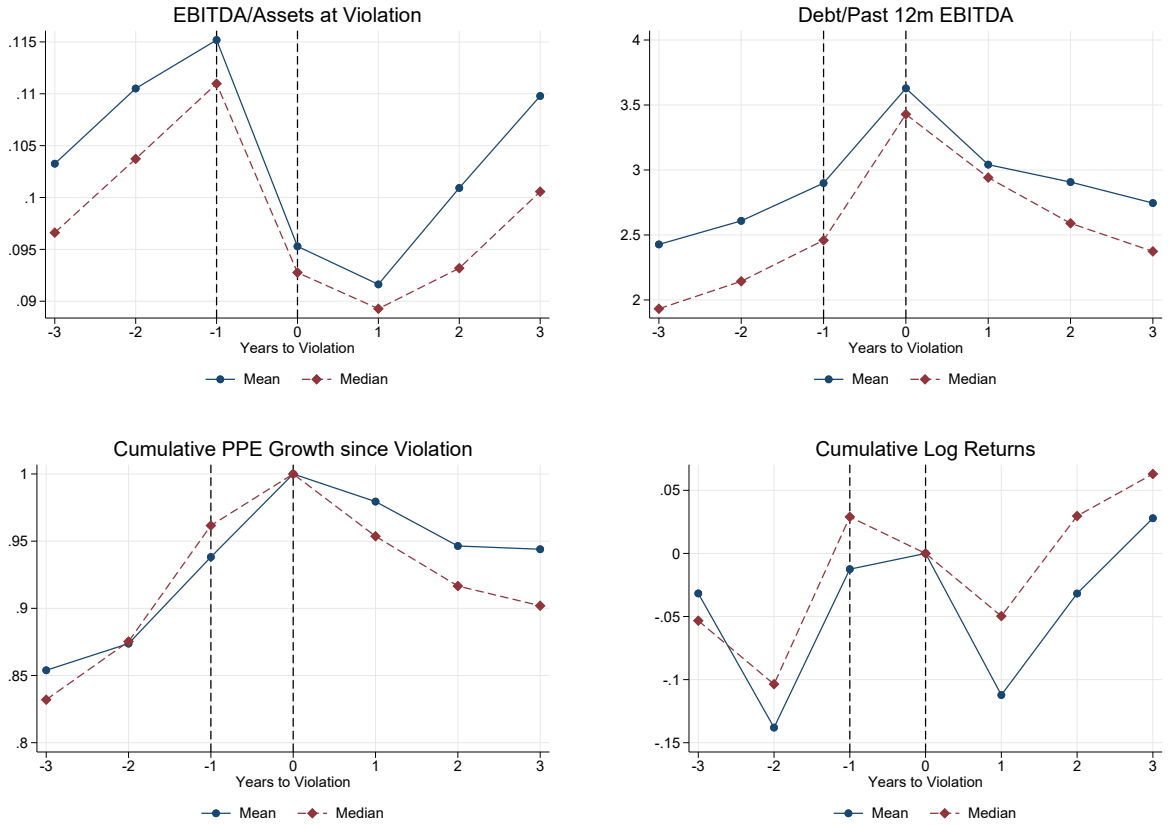
of debt agreements used in practice. For this, we plan to construct a quantitative model consistent with micro-level patterns of debt contracts and the dynamics around the violation of debt covenants, and use it as a laboratory for policy analysis. In particular, we plan to study the extent to which debt contracts used in practice amplify aggregate shocks and the impact of macroeconomic policies. We also plan to study under what conditions the types of contracts used in practice lead to borrowing inefficiencies and provide a scope for macroprudential policies. We believe that the work we propose to develop can have a broad impact, providing a framework that can be used by other researchers interested in studying economic fluctuations and by policymakers in macroeconomic-policy design.

Guiding empirical evidence. To guide our model analysis, we begin by analyzing the dynamics of firms' real and financial variables around the violation of debt covenants, as documented in the empirical corporate finance literature (e.g., Roberts and Sufi, 2009; Nini, Smith and Sufi, 2012). In this analysis, we use quarterly Compustat data for the period 1996 to 2017 and the dates of violations from an extension of Nini, Smith and Sufi (2012), collected through textual analyses of disclosures in financial statements.

Panel (a) of Figure 1 shows that episodes of debt covenant violations tend to be preceded by a short-lived "boom-bust cycle" in earnings, with an increase in operating earnings (EBITDA) from three to one year before the violation, and a sharp decline in earnings the year of the violation. Following the violation, earnings then tend to progressively recover to their pre-boom levels. Panels (b) and (c) show the dynamics of debt-to-EBITDA and the cumulative capital stock, which tend to exhibit a steady increase before the violation and decline following the violation. Three years after the violation, capital levels are still above the pre-boom levels. Finally, Panel (d) shows that stock returns decline following the violation and fully recover three years later.

Model. Our goal is to construct a model with realistic debt contracts that can generate predictions aligned with the dynamics reported in the previous section. In our model, firms produce with decreasing-returns-to-scale technology using capital and labor as inputs; and

Figure 1: Empirical patterns of firms' adjustments to covenant violations



Notes: This figure shows the dynamics of firms' variables around episodes of covenant violations. The horizontal axis denotes the year since the violation (set as year 0).

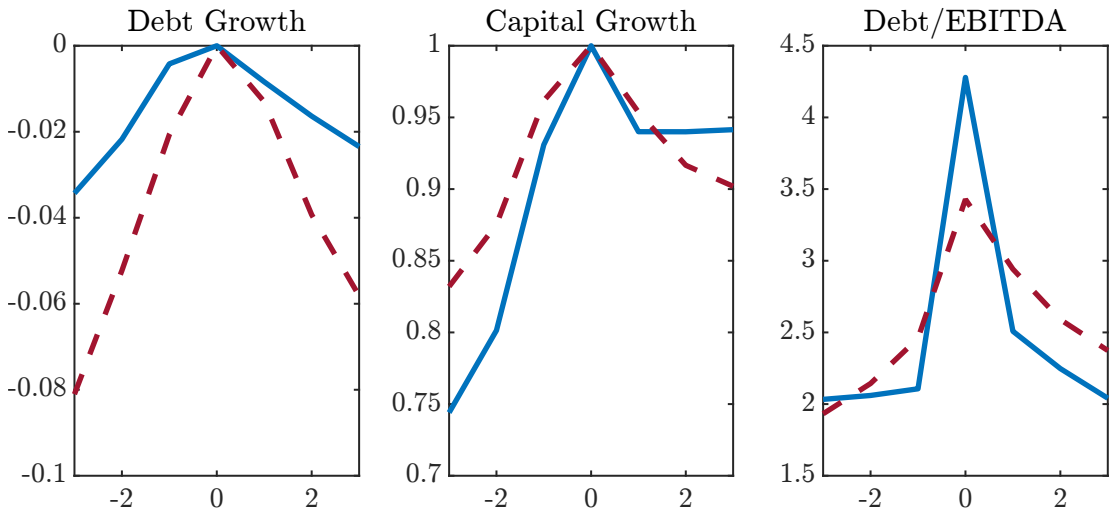
have access to long-term debt and costly equity to finance their investment. Lenders have resources they can choose to invest in lending to firms or in a risk-free bond.

The main ingredient of our framework is the specification of debt contracts, which builds on the theoretical corporate-finance literature studying incomplete contracts and the transfer of control rights (e.g., Aghion and Bolton, 1992). A firm can be in two states: a "normal state" or a "violation state." In the normal state, the firm chooses its investment, employment, equity issuance, new borrowing, and repays debt coupons and principal as specified in the contract. In the violation state, the firm transfers its control rights to lenders, meaning that lenders choose the firm's investment, employment, equity issuance, new borrowing, and repayments. The transition from a normal state to a violation state

occurs when a firm's debt exceeds a limit linked to the firm's operating earnings specified in the contract (which, as shown in Lian and Ma, 2021, is the most frequent form of debt covenant observed empirically for large U.S. firms). A transition back to the normal state occurs when the debt falls below the limit specified in the contract.

Using a parameterized version of this model, we show that our framework delivers quantitative predictions for firms' investment and financing decisions that are aligned with data patterns. First, our model is able to match micro-level unconditional moments of investment, borrowing, and equity issuance observed in the data. Second, as illustrated in Figure 1, the predictions of our model are consistent with the dynamics of borrowing and investment around the violation of debt covenants, described in the previous section.

Figure 2: Firms' adjustments to covenant violations: Model and data



Notes: This figure shows the dynamics of firms' variables around episodes of covenant violations in a parameterized version of our model and in the data. The horizontal axis denotes the year since the violation (set as year 0).

Policy analysis. So far, our project has concentrated on studying the interaction between firms and lenders in partial equilibrium. The main task ahead is to embed this framework in a macroeconomic model that can be used to conduct policy analysis. We plan to study two broad types of policies: stabilization policies and macroprudential policies.

In the area of stabilization policies, a large literature in macroeconomics has shown that

financial frictions faced by nonfinancial firms can lead to a "financial accelerator," whereby changes in prices linked to financial constraints amplify aggregate shocks and the response to changes in monetary and fiscal policy (e.g., Kiyotaki and Moore, 1997; Bernanke *et al.*, 1999). We plan to reassess this question under the contractual environment considered in the previous section. For this, we plan to add a parsimonious New Keynesian block to the model (similar to Bernanke *et al.*, 1999; Ottonello and Winberry, 2020) to study the effects of stabilization policy. We expect to find less amplification than in the financial accelerator literature, as in our framework investment decisions are not determined by financial constraints but by lenders who maximize their proceeds from lending.

In the area of macroprudential policies, a more recent literature has shown that collateral constraints faced by nonfinancial firms can lead to inefficient borrowing, as firms do not internalize that their increase in borrowing relaxes the borrowing constraints of other firms in general equilibrium, increasing the overall risk in the economy (see, for example, Bianchi and Mendoza, 2018). We also plan to reassess this question under the contractual environment considered in the previous section. Given that the violation of debt covenants triggers a transfer of control rights, it is not clear whether an increase in the likelihood of violation of debt contracts for other firms will increase or decrease risk in the economy.

Our research entails an ambitious effort in terms of quantitative analysis. This is because the analysis of macroprudential policies involves solving the quantitative model with aggregate risk, which requires the use of global methods for which there are no pre-established packages. For this reason, the resources from this grant will benefit the project by enabling us to hire a team of research assistants who can help with this large-scale quantitative work.

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Bianchi, J. and Mendoza, E. G. (2018). Optimal time-consistent macroprudential policy. *Journal of Political Economy*, **126** (2), 588–634.

Kiyotaki, N. and Moore, J. (1997). Credit cycles. *Journal of political economy*, **105** (2), 211–248.

Lian, C. and Ma, Y. (2021). Anatomy of corporate borrowing constraints. *The Quarterly Journal of Economics*, **136** (1), 229–291.

Nini, G., Smith, D. C. and Sufi, A. (2012). Creditor control rights, corporate governance, and firm value. *The Review of Financial Studies*, **25** (6), 1713–1761.

Ottonello, P. and Winberry, T. (2020). Financial heterogeneity and the investment channel of monetary policy. *Econometrica*, **88** (6), 2473–2502.

Roberts, M. R. and Sufi, A. (2009). Control rights and capital structure: An empirical investigation. *The Journal of Finance*, **64** (4), 1657–1695.

Policy Impact Our research work will inform the policy debate regarding the effectiveness and desirability of two broad types of policies: stabilization policies and macroprudential policies.

In the area of stabilization policies, a large literature in macroeconomics has shown that financial frictions faced by nonfinancial firms can lead to a "financial accelerator," whereby changes in prices linked to financial constraints amplify aggregate shocks and the response to changes in monetary and fiscal policy. We plan to reassess this question under the contractual environment described in the research proposal. We expect to find less amplification than in the financial accelerator literature, as in our framework investment decisions are not determined by financial constraints but by lenders who maximize their proceeds from lending.

In the area of macroprudential policies, a more recent literature has shown that collateral constraints faced by nonfinancial firms can lead to inefficient borrowing, as firms do not internalize that their increase in borrowing relaxes the borrowing constraints of other firms in general equilibrium, increasing the overall risk in the economy. We also plan to reassess this question under the contractual environment described in the research proposal. Given that the violation of debt covenants triggers a transfer of control rights, it is not clear whether an increase in the likelihood of violation of debt contracts for other firms will increase or decrease risk in the economy.

Research Proposal: "The Macroeconomic Implications of Corporate Debt Contracts"

Chen Lian declares that he receives financial support from the Alfred P Sloan Foundation.

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Pablo Ottonello declares that he has no relevant or material financial interests that relate to the research described in this paper.

Diego J. Perez declares that he has no relevant or material financial interests that relate to the research described in this paper.

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Google scholar: https://scholar.google.com/citations?user=z3yCoXYAAAAJ&hl=en&oi=sra

Academic Positions

University of California, Berkeley. Assistant Professor of Economics (2020–).
Research interests: Macroeconomics, Monetary Economics, Behavioral Economics, Finance.

National Bureau of Economic Research. Faculty Research Fellow (2021–).
Programs: Monetary Economics, Economic Fluctuations and Growth.

Education

Massachusetts Institute of Technology, Cambridge, MA.
Ph.D. in Economics, 2020.

Massachusetts Institute of Technology, Cambridge, MA.
B.S. in Economics, 2015; B.S. in Mathematics, 2015.

Publications

Mistakes in Future Consumption, High MPCs Now. *American Economic Review: Insights*. December 2023.

Determinancy without the Taylor Principle, with George-Marios Angeletos. *Journal of Political Economy*. August 2023.

Dampening General Equilibrium: Incomplete Information and Bounded Rationality, with George-Marios Angeletos. *Handbook of Economic Expectations*. January 2023.

Confidence and the Propagation of Demand Shocks, with George-Marios Angeletos. *Review of Economic Studies*. May 2022.

A Theory of Narrow Thinking. *Review of Economic Studies*. October 2021 (Feature Article).

Anatomy of Corporate Borrowing Constraints, with Yueran Ma. *Quarterly Journal of Economics,* February 2021.

Low Interest Rates and Risk Taking: Evidence from Individual Investment Decisions, with Yueran Ma and Carmen Wang. *Review of Financial Studies*, June 2019 (Lead article).

Forward Guidance without Common Knowledge, with George-Marios Angeletos. *American Economic Review*, September 2018.

Incomplete Information in Macroeconomics: Accommodating Frictions in Coordination, with George-Marios Angeletos. *Handbook of Macroeconomics, Volume 2*, October 2016.

Working Papers

Can Deficits Finance Themselves? with George-Marios Angeletos and Christian Wolf. Revise and resubmit at *Econometrica*.

The Economics of Financial Stress, with Dmitriy Sergeyev and Yuriy Gorodnichenko.

Bankruptcy Resolution and Credit Cycles, with Martin Kornejew, Yueran Ma, Pablo Ottonello and Diego Perez. Prepared for the *NBER 39th Annual Conference on Macroeconomics*, 2024.

Selected Work in Progress

Beliefs about the Economy are Excessively Sensitive to Household-level Shocks: Evidence from the Danish Registry, with Luigi Butera, Matteo Saccarola and Dmitry Taubinsky.

Deficits and Inflation: Beyond the FTPL, with George-Marios Angeletos and Christian Wolf.

Comments and Conference Volumes

Comments on **"Fiscal and Monetary Stabilization Policy at the Zero Lower Bound: Consequences of Limited Foresight"** by Woodford and Xie, *Journal of Monetary Economics: Carnegie-Rochester Conference Series on Public Policy*, 2022.

Conference and Seminar

2024 AEA, BSE Summer Forum (ADEMU), Federal Reserve Bank of Boston, Federal Reserve Bank of Chicago, Federal Reserve Bank of Minneapolis, IMF Conference on Fiscal Policy and Sovereign Debt, Imperial College London, LSE, NBER 39th Annual Conference on Macroeconomics, SED, The 12th Annual CIGS conference on Macroeconomic Theory and Policy, UC Berkeley, UCL, UT Austin, University of Chicago, Northwestern University, University of Tokyo

2023 AFA (discussant), Behavioral Economics Annual Meeting, Biennial Consumer Finance and Macroeconomics Conference, Bocconi, Boston College, CKGSB, Columbia (Money-Macro Workshop and Cognition and Decision Lab), Dartmouth, Indiana University Bloomington, LAEF 2nd Annual Junior Workshop in Macroeconomics, NBER Ef&G Fall Meeting; NBER International Finance and Macroeconomics Fall Meeting (discussant); NBER Monetary Economics Spring Meeting, NYU, Psychology and Economics of Poverty Convening, SITE Fiscal Sustainability, Stony Brook Workshop on Learning and Bounded Rationality, UC Berkeley

2022 AEA, AFR International Conference of Economics and Finance, Brown, China International Conference in Macroeconomics, Conference in Honor of Marvin Goodfriend at the Federal Reserve Bank of Richmond, IMF, Maryland, Miami Behavioral Finance Conference, NBER Behavioral Finance Fall Meeting, NBER Ef&G Spring Meeting, NBER Summer Institute (Behavioral Macroeconomics, discussant; Impulse and Propagation Mechanism), Princeton, SED, Stanford, Tsinghua University, UC Berkeley, UC Davis, UCLA, University of Warwick, UT Austin, Wharton

2021 Carnegie-Rochester Conference Series on Public Policy (discussant), China International Conference in Macroeconomics, Federal Reserve Bank of San Francisco, Hitotsubashi University, LSE, Miami Behavioral Finance Conference (discussant), Minnesota Workshop in Macroeconomic Theory, NBER Summer Institute (Impulse and Propagation Mechanism), Pontifical Catholic University of Chile, SED, SFS cavalcade (discussant), UC Berkeley, USC, VEAMS

2020 Berkeley-Chicago Behavioral Economics, Boston University, Chicago Booth, Columbia, Duke, Duke Fuqua, Florida State, NBER Monetary Economics Fall Meeting, NBER Summer Institute (Impulse and Propagation Mechanism), BI Norwegian Business School- Norges Bank-University of Oslo, China Star Tour, Stanford GSB, UC Berkeley, Yale SOM

2019 AEA, MIT, St. Louis Fed

2018 AEA, BSE Summer Forum, Bank of Canada (discussant), D-TEA, NBER Monetary Economics Spring Meeting, NBER Summer Institute (Impulse and Propagation Mechanism), SED

2017 AEA, Banque de France, Cowles Foundation (Macroeconomics), ECB, NBER Ef&G Spring Meeting, NBER Monetary Economics Fall Meeting, NBER Summer Institute (Risks of Financial Institutions & Impulse and Propagation Mechanism), SED

2016 Econometric Society, NBER Behavioral Finance Fall Meeting, NBER Summer Institute (Impulse and Propagation Mechanism), SED

Teaching

2024 NBER Behavioral Macroeconomics Research Boot Camp

2023 Econ 236B, Advanced Macroeconomics II

Econ 138, Financial and Behavioral Economics

2022 Econ 138, Financial and Behavioral Economics

NBER Behavioral Macroeconomics Research Boot Camp

2021 Econ 236D, Behavioral Macroeconomics

Ph.D. Advising

2023 Jianlin Wang (Santa Clara University)

2022 Seung Joo Lee (Oxford Said)

Referee Services

American Economic Review, Econometrica, Quarterly Journal of Economics, Journal of Political Economy, Review of Economic Studies, American Economic Review: Insights, Journal of Finance, Journal of Financial Economics, American Economic Journal: Macroeconomics, American Economic Journal: Applied Economics, Journal of Economic Theory, Journal of Monetary Economics, Review of Economics and Statistics, Journal of International Economics, Journal of Mathematical Economics, Theoretical Economics, Journal of Economic Dynamics and Control, Economic Journal, Quantitative Economics.

Grant reviewer

National Science Foundation, Alfred P. Sloan Foundation, Israel Science Foundation

Academic Visits

2023-2024 Northwestern (full-year)

2024 Federal Reserve Bank of Minneapolis (1-week), Uchicago BFI Institute (2-week)

2023 Columbia (3-week), NYU (1-week)

2022 IMF (1-week), Uchicago BFI Institute (1-week), Yale SOM (1-week)

Awards, Fellowship, and Grants

2023 UC Berkeley Monetary Economics Grant ($10,000)

Clausen Center Grant ($5,000)

2022 Excellence in Refereeing Award, *American Economic Review*

REStud 2022 Excellence in Refereeing Award

CICM 2022 Best Paper Award

2021 Alfred P. Sloan Foundation: "Behavioral Macroeconomics: Methodology and Policy Implications" ($248,662)

Sapere Aude, DFF-Starting Grant: "The Beliefs Lab: Measuring the Evolution and Impact of Beliefs on the Economy," with Luigi Butera, Birthe Larsen, and Dmitry Taubinsky ($952,894)

Clausen Center Grant ($10,000)

CICM 2021 Best Junior Scholar Paper Award

2020 Robert M. Solow Prize for Excellence in Graduate Research and Teaching

China Star Tour

2019 Alfred P. Sloan Foundation Pre-doctoral Fellowship in Behavioral Macroeconomics

2017 WFA Cubist Systematic Strategies PhD Candidate Award for Outstanding Research

George and Obie Shultz Fund

2016 Gregory K. Palm Fellow

George and Obie Shultz Fund

2015 MIT Presidential Fellow

George and Obie Shultz Fund

Phi Beta Kappa

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Employment

Associate Professor of Finance, University of Chicago Booth School of Business (2022—).

Assistant Professor of Finance, University of Chicago Booth School of Business (2018—2022).

Education

Harvard University, Cambridge, MA.
Ph.D. in Business Economics, 2018.

Harvard University, Cambridge, MA.
B.A., *summa cum laude* in Applied Mathematics, 2014.

Other Affiliation

National Bureau of Economic Research (NBER), Faculty Research Fellow (2021—).

Center for Economic and Policy Research (CEPR), Research Affiliate (2020—).

Publications

100 Years of Rising Corporate Concentration, with Spencer Kwon and Kaspar Zimmermann. *American Economic Review* (Conditionally accepted).

Monetary Policy and Innovation, with Kaspar Zimmermann. *Jackson Hole Economic Policy Symposium Volume* (Forthcoming).

Overreaction in Expectations: Evidence and Theory, with Hassan Afrouzi, Spencer Kwon, Augustin Landier, and David Thesmar. *Quarterly Journal of Economics* (2023).

Asset Specificity of Nonfinancial Firms, with Amir Kermani. *Quarterly Journal of Economics* (2023).

Corporate Flexibility in a Time of Crisis, with John Barry, Murillo Campello, and John Graham. *Journal of Financial Economics* (2022).

Anatomy of Corporate Borrowing Constraints, with Chen Lian. *Quarterly Journal of Economics* (2021).

Overreaction in Macroeconomic Expectations, with Pedro Bordalo, Nicola Gennaioli, and Andrei Shleifer. *American Economic Review* (2020).

Nonfinancial Firms as Cross-Market Arbitrageurs. *Journal of Finance* (2019).

Low Interest Rates and Risk Taking: Evidence from Individual Investment Decisions, with Chen Lian and Carmen Wang. *Review of Financial Studies* (2019), Lead article & Editor's choice. Replicated by the Dutch Authority for the Financial Markets.

A Real Estate Boom with Chinese Characteristics, with Wei Huang, Edward Glaeser, and Andrei Shleifer. *Journal of Economic Perspectives* (2017).

Expectations and Investment, with Nicola Gennaioli and Andrei Shleifer. *NBER Macroeconomics Annual* (2016), Martin Eichenbaum and Jonathan Parker (ed.), National Bureau of Economic Research.

What is Different about Urbanization in Rich and Poor Countries? Cities in Brazil, China, India, and the United States, with Juan Pablo Chauvin, Edward Glaeser, and Kristina Tobio. *Journal of Urban Economics* (2016).

The Supply of Gender Stereotypes and Discriminatory Beliefs, with Edward Glaeser. In *Human Capital in History: The American Record* (2014).

Working Papers

Superstar Firms through the Generations, with Benjamin Pugsley and Kaspar Zimmermann.

Bankruptcy Resolution and Credit Cycles, with Martin Kornejew, Chen Lian, Pablo Ottonello, and Diego Perez. Prepared for the NBER Macroeconomics Annual.

Two Tales of Debt, with Amir Kermani.

Going-Concern Debt of Financial Intermediaries, with José Scheinkman.

Expectations and Bank Lending, with Teodora Paligorova and José-Luis Peydró.

A Quantitative Analysis of Distortions in Managerial Forecasts, with Tiziano Ropele, David Sraer, and David Thesmar.

Bank CEO Optimism and the Financial Crisis.

Seminars and Conferences

2024	Purdue, Norges Bank, Bank of Portugal, Nova BSE, Fed Board, Melbourne; NBER Macro Annual, International Conference of Finance UC, Central Bank of Peru.
2023	Yale SOM, Stanford GSB, Wharton, St. Louis Fed, McGill, Boulder Leeds, Boston College Carroll, Rochester (Macro), HBS; Becker Brownbag, Jackson Hole Economic Policy Symposium, Boston College Economics Symposium, World Intellectual Property Organization, FMA.
2022	Princeton, Columbia (Macro), Berkeley (Macro), Rutgers, Edinburgh (Econ), Vienna Graduate School of Finance, LSE (Macro), UCL, Cambridge Judge, PKU HSBC School, Kansas City Fed, Zhejiang University, MIT Sloan, Princeton (Macro), San Francisco Fed, City University of Hong Kong, Frankfurt School of Management and Finance; AEA, NBER Megafirms and the Post-COVID Economy Meeting, PHBS Workshop in Macroeconomics and Finance, Macroeconomics in a Post Pandemic World, Bank of England Macro-Finance Workshop, Conference in Honor of Charlie Evans; Yale Behavioral Finance Summer School, Macro Finance Research Program Summer Session for Young Scholars.

2021 INSEAD, Minnesota Carlson, Johns Hopkins (Macro), Singapore Management University, UIC, BU Questrom, ASU Carey, CMU Tepper, UIUC Gies, UT Austin McCombs, Tsinghua, SAIF, Washington Foster, LBS (Econ), Berkeley-Chicago Booth Behavioral Econ Workshop, Bank of Canada, Goethe University Frankfurt, University of New South Wales, Shanghai Jiaotong, USC Marshall, Norges Bank, Swiss Finance Institute, Dartmouth Tuck, Bonn MacroHistory & MacroFinance Webinar, New York Fed, Michigan (Macro), UC Irvine (Macro), Philadelphia Fed, Pittsburgh Katz, Michigan Ross, HKU, HKUST, PUC Chile; SED at ASSA, CEBI Workshop on Subjective Beliefs, Corporate Restructuring & Insolvency Seminar, BC Consumer Finance Workshop, SFS Cavalcade, ITAM Finance Conference, SED, NBER Summer Institute (Corporate Finance, Behavioral Macro), Behavioral Macro-Finance: Implications for Central Bankers, NBER EF&G, Subjective Beliefs in Macroeconomics and Household Finance.

2020 Columbia GSB, BIS, Bocconi, NYU (Macro), NYU Stern, LSE, LBS, Chicago Fed, CUHK, BU (Macro), IMF, Notre Dame, EDHEC, Baruch, Tsinghua (PBC School); AEA, NBER Summer Institute (Impulse and Propagation), Virtual Corporate Finance Fridays, Triangle Macro-Finance Workshop, Red Rock, Virtual Finance Workshop, Federal Reserve Stress Testing Research Conference, Macro Finance Research Program Summer Session for Young Scholars.

2019 Chicago Booth, WashU Olin, Blue Collar Working Group on Robustness and Uncertainty, Fed Board, Ohio State Fisher, Bank of Canada, MIT (Macro), Bonn (Macro), Maryland (Macro), New York Fed, Yale (Macro), Northwestern (Macro), Stockholm School of Economics, ITAM; NBER (EF&G), Developments in Empirical Macroeconomics, World Investment Forum, SED, Frontiers in Macrofinance and Financial History, EM3C, Yale Behavioral Finance Summer School, Jerusalem Summer School of Economics.

2018 Chicago Booth, Stanford GSB, MIT Sloan, Berkeley Haas, Yale SOM, Wharton, Columbia, Copenhagen Business School, Duke Fuqua, BYU, CREI/UPF (Macro); Econometric Society North American Winter Meeting, AEA, NBER (Monetary Economics), NBER (Behavioral Finance), NBER Summer Institute (Impulse and Propagation, Behavioral Macro), European Summer Symposium in Financial Markets, Stanford SITE (Experimental, Psych & Ec), Boston Fed Economic Conference.

2017 NBER (Behavioral Finance), NBER Summer Institute (Risks of Financial Institutions), WFA, SFS Cavalcade, FMA Napa Conference, UBC Winter Finance Conference, Wolfe Research Global Quant and Macro Investment Conference.

2016 NBER (Behavioral Finance), WFA Annual Meeting, FMA Applied Finance Conference, FSU SunTrust Beach Conference.

2015 Miami Behavioral Finance Conference, NBER Macro Annual.

Discussions

Conference on Treasury Markets, April 2024.
"Long-Term Bond Supply, Term Premium, and the Duration of Corporate Investment" by Antoine Hubert de Fraisse.

6th Annual IMF Macro-Financial Research Conference, April 2024.
"Financing the Adoption of Clean Energy" by Andrea Lanteri and Adriano Rampini.

NBER Corporate Finance Fall Meeting, November 2023.
"Talent Management Under Uncertainty" by Daniel Carvalho.

NBER Summer Institute Asset Pricing, July 2023.
"The Rise in Alternatives" by Juliane Begenau, Pauline Liang, and Emil Siriwardane.

NBER Summer Institute Behavioral Macro, July 2023.
"The Effects of Communicating Inflation Uncertainty on Household Expectations" by Olena Kostyshyna and Luba Petersen.

Chicago Fed Workshop on Non-Bank Financial Institutions, April 2023.
"Do pension funds reach for yield? Evidence from a new database" by Maximilian Konradt.

AFA Annual Meeting, January 2023.
"The Role of FinTech in Small Business Lending" by Paul Beaumont, Huan Tang, and Eric Vansteenberghe.

AFA Annual Meeting, January 2023.
"The Inference-Forecast Gap in Belief Updating" by Tony Fan, Yucheng Liang, and Cameron Peng.

IMF Macro-Financial Research Conference, October 2022.
"Why is Intermediating Houses so Difficult? Evidence from iBuyers" by Greg Buchak, Gregor Matvos, Tomasz Piskorski, and Amit Seru.

Conference in Honor of Mark Gertler, October 2022.
"Credit Horizons" by Nobuhiro Kiyotaki, John Moore, and Shengxing Zhang.

Bank of Canada Macro-Finance Conference, September 2022.
"Uncertainty is More Than Risk: Survey Evidence on Knightian and Bayesian Firms" by Rüdiger Bachmann, Kai Carstensen, Stefan Lautenbacher, and Martin Schneider.

SAIF International Conference, July 2022.
"The Shadow Cost of Collateral" by Guangqian Pan, Zheyao Pan, and Kairong Xiao.

China International Conference in Macroeconomics, June 2022.
"Automation, Market Concentration, and the Labor Share" by Hamid Firooz, Zheng Liu, and Yajie Wang.

AFA Annual Meeting, January 2022.
"Belief Distortions and Macroeconomic Fluctuations" by Francesco Bianchi, Sydney Ludvigson, and Sai Ma.

AFA Annual Meeting, January 2022.
"Risk Aversion Propagation: Evidence from Financial Markets and Controlled Experiments" by Xing Huang and Nancy Xu.

Macro Finance Society Meeting, October 2021.
"Bonds vs. Equities Information for Investment" by Huifeng Chang, Adrien d'Avernas, Andrea Eisfeldt.

IMF Annual Macro-Financial Research Conference, September 2021.
"Crisis Innovation" by Tania Babina, Asaf Bernstein, and Philippo Mezzanotti.

NBER Summer Institute (EFG), July 2021.
"Risk Taking and Monetary Policy Transmission: Evidence from Loans to SMEs and Large Firms" by Cecilia Caglio, Matthew Darst, and Sebnem Kalemli-Ozcan.

NBER Summer Institute (MEFM/IFM/ME), July 2021.
"Bank Liquidity Provision Across the Firm Size Distribution" by Gabriel Chodorow-Reich, Olivier Darmouni, Stephan Luck, and Matthew Plosser.

WFA Annual Meeting, June 2021.
"Under- and Over-Reaction in Yield Curve Expectations" by Chen Wang.

ITAM Finance Conference, June 2021.
"Investment Plans, Uncertainty, and Misallocation" by Ben Charoenwong, Yosuke Kimura, Alan Kwan, Eugene Tan.

ABFER Seminar Series on Capital Market Development: China and Asia, April 2021.
"Going Bankrupt in China" by Li Bo and Jacopo Ponticelli.

MFA Annual Meeting, March 2021.
"Credit Fire Sales: Captive Lending as Liquidity in Distress" by Matteo Benetton, Sergio Mayordomo, and Daniel Paravsini.

AFA Annual Meeting, January 2021.
"Interest Rates and the Design of Financial Contracts" by Michael Roberts and Michael Schwert.

Minnesota Corporate Finance Conference, October 2020.
"Collateral and Secured Debt" by Adriano Rampini and S. Viswanathan.

NBER Summer Institute (Behavioral Macro), July 2020.
"Taming a Minsky Cycle" by Emmanuel Farhi and Ivan Werning.

Expectations in Macroeconomic and Financial Models, June 2020.
"Optimally Imprecise Memory and Biased Forecasts" by Rava Azeredo da Silveira, Yeji Sung, and Michael Woodford.

Red Rock Finance Conference, September 2019.
"Market Power in Small Business Lending" by Natalie Bachas and Ernest Liu.

NBER Summer Institute (Household Finance), July 2019.
"Evidence on Expectations of Household Fiances" by João Cocco, Francisco Gomes, and Paula Lopes.

INET Private Debt Initiative, June 2019.
"Expectations and Credit Cycles: What Role for Overoptimism of Borrowers and Lenders?" by Alessia De Stefani and Kaspar Zimmermann.

MFA Annual Meeting, March 2019.
"Extrapolative Beliefs in the Cross Section: What Can We Learn from the Crowds?" by Zhi Da, Xing Huang, and Lawrence Jin.

NBER (Monetary Economics), March 2019.
"Five Facts about Beliefs and Portfolios" by Stefano Giglio, Matteo Maggiori, Johannes Stroebel, and Stephen Utkus.

AFA Annual Meeting, January 2019.
"Monetary Policy and Reaching for Income" by Kent Daniel, Lorenzo Garlappi, and Kairong Xiao.

Miami Behavioral Finance Conference, December 2018.
"The Return Expectations of Institutional Investors" by Aleksandar Andonov and Joshua Rauh.

Monetary Policy, Macroprudential Policy and Financial Stability, December 2018.
"Employment and the Collateral Channel of Monetary Policy" by Saleem Bahaj, Angus Foulis, Gabor Pinter, and Paolo Surico.

FMA Annual Meeting, October 2017.
"Sticky Expectations and the Profitability Anomaly" by Jean-Philippe Bouchaud, Philipp Krüger,

Angustin Landier, and David Thesmar.

NBER Summer Institute (Urban Economics), July 2017.
"Real Estate Booms and Endogenous Productivity Growth" by Yu Shi.

FMA Annual Meeting, October 2016.
"The Role of Hard Information in Debt Contracting: Evidence from Fair Value Adoption" by Aytekin Ertan and Stephen Karolyi.

NBER Summer Institute (Urban Economics), July 2015.
"Walled Cities in Late Imperial China" by Yannis Ioannides and Junfu Zhang.

Professional Services

Referee: *Quarterly Journal of Economics, American Economic Review, Journal of Political Economy, Review of Economic Studies, Journal of Finance, Review of Financial Studies, Journal of Financial Economics, American Economic Journal: Macroeconomics, American Economic Journal: Microeconomics, American Economic Journal: Economic Policy, Journal of Monetary Economics, Journal of the European Economic Association, Journal of Urban Economics, Management Science, Economic Journal, Journal of Money, Credit, and Banking, Journal of Econometrics, Journal of Empirical Finance, European Economic Review.*

Program Committee: Econometric Society World Congress, Western Finance Association, SFS Cavalcade, European Finance Association Annual Meeting, Midwest Finance Association, Eastern Finance Association.

Macro Finance Research Program Advisory Committee

Honors and Awards

2023	Alfred P. Sloan Fellowship
2023	AQR Institute Young Researcher Award
2022	NSF CAREER Award ("Firms and the Macroeconomy")
2022	Leo Melamed Prize for Outstanding Research in Finance, Chicago Booth
2019	Excellence in Refereeing Prize, *Review of Economic Studies*
2018	Padma Desai Prize in Economic Science, Harvard Economics
2018	AQR Top Finance Graduate Award
2017	Martin Award for Excellence in Doctoral Student Research in Business Economics, Harvard Business School
2017, 2016	WFA Cubist Systematic Strategies PhD Candidate Award for Outstanding Research
2014	Thomas T. Hoopes Prize
2013	Phi Beta Kappa (Junior 24)
2009	Shing-Tung Yau Mathematics Award Silver Prize

Pablo Ottonello

University of Maryland
Department of Economics

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Academic Positions

2023 -	University of Maryland, Department of Economics, Associate Professor
2024	Harvard Business School, Visiting Associate Professor
2022 - 2023	Princeton University, Department of Economics, IES Kenen Fellow
2022 - 2023	University of Michigan, Department of Economics, Associate Professor (with tenure)
2022 -	National Bureau of Economic Research, Research Associate
2019 - 2022	National Bureau of Economic Research, Faculty Research Fellow
2018 - 2019	New York University, Department of Economics, Visiting Assistant Professor
2015 - 2022	University of Michigan, Department of Economics, Assistant Professor

Editorial Positions

2022 -	Journal of Monetary Economics, Associate Editor
2021 -	Journal of International Economics, Associate Editor

Education

2015	Ph.D.	in Economics, Columbia University Dissertation: "Essays in Macroeconomics and Finance"
2006	B.A.	in Economics, Universidad de la Republica, Uruguay

Research Interests

Macroeconomics, International Economics, Finance, Monetary Economics

Papers

Publications and conditionally accepted papers

The Micro Anatomy of Macro-Consumption Adjustments, with Rafael Guntin and Diego Perez, *American Economic Review*, 113(8), 2201-2231.

Fiscal Stimulus under Sovereign Risk, with Javier Bianchi and Ignacio Presno, *Journal of Political Economy*, 131(9), 2328-2369.

Monetary Policy and Redistribution in Open Economies, with Xing Guo and Diego Perez, *Journal of Political Economy Macroeconomics*, Vol 1 No. 1, 191-241.

Capital Unemployment, conditionally accepted, *Review of Economic Studies*.

Are Collateral-Constraint Models Ready for Macroprudential Policy Design?, with Diego Perez and Paolo Varraso, *Journal of International Economics*, 2022, Vol 139

Global Banks and Systemic Debt Crises, with Juan Martin Morelli and Diego Perez, *Econometrica*, 2022, Vol 90, No.2, 749-798.

Optimal Exchange Rate Policy under Collateral Constraints and Wage Rigidity, *Journal of International Economics*, 2021, Vol 121.

Financial Heterogeneity and the Investment Channel of Monetary Policy, with Thomas Winberry, *Econometrica*, 2020, Vol 88, No. 6, 2473-2502.

The Currency Composition of Sovereign Debt, with Diego Perez, *American Economic Journal: Macroeconomics*, 2019, Vol 11, No. 3, 174-208.

Systemic Sudden Stops: Crises and Recoveries in Emerging Market Economies, with Guillermo Calvo, in Calvo, G. *Macroeconomics in Times of Liquidity Crises: Searching for Economic Essentials*, MIT Press, 2016.

Jobless Recoveries During Financial Crises: Is Inflation the Way Out?, with Guillermo Calvo and Fabrizio Coricelli, in Bauduco, S., L. Christiano, and C. Raddatz, *Macroeconomic and Financial Stability: Challenges for Monetary Policy*, Central Bank of Chile, 2014.

Working papers

Capital, Ideas, and the Costs of Financial Frictions, with Thomas Winberry, NBER wp 32056.

The Exchange Rate as an Industrial Policy, with Diego Perez and William Witheridge, working paper.

On the Real Transmission of the Global Financial Cycle, with Caitlin Hegarty, Matias Moretti, and Diego Perez, working paper.

Illiquid Markets, Asymmetric Information, and Investment, with Aimé Bierdel, Andres Drenik, and Juan Herreño, NBER wp 31711. Revise and resubmit, *Journal of Political Economy*.

The Dynamics of Large Inflation Surges, with Andres Blanco and Tereza Ranosova, NBER wp 30555. Revise and resubmit, *Review of Economics and Statistics*.

Financial Intermediaries and the Macroeconomy: Evidence from a High-Frequency Identification, with Wenting Song, NBER wp 29638. Revise and resubmit, *Economic Journal*.

Labor Market, Financial Crises and Inflation: Jobless and Wageless Recoveries, with Guillermo Calvo and Fabrizio Coricelli, NBER Working Paper No. 18480.

Teaching experience

University of Maryland

Advanced Topics in International Economics — Second-year Ph.D., one academic term

Harvard Business School

Business, Government, and the International Economy	MBA program, one academic term

University of Michigan

Financial Economics	Undergraduate level, nine academic terms
Macroeconomic Theory	Second-year Ph.D., six half-academic terms
Macroeconomics and Financial Markets	First-year Ph.D., six half-academic terms

Columbia University

Macroeconomics I	MPA in Economic Policy Management (School of International and Public Affairs), five summer terms

New York University

International Macroeconomics	Second-year Ph.D., one academic term

Work experience before Ph.D. completion

Summer 2014	Federal Reserve Bank of New York, PhD Summer Internship
2004-2009	Research Economist at CERES, a think tank located in Uruguay that specializes in the macroeconomic analysis of Latin American economies

Honors and awards

2020-21	Michigan LSA Summer Research Program Award for "Financial Frictions and Macroeconomic Dynamics"
2020-21	Michigan Institute for Teaching and Research in Economics Junior Faculty Research Award for "Macroeconomic Policies During Financial Crises"
2020-21	Michigan Institute for Teaching and Research in Economics Junior Faculty Research Award for "Misallocation over the Business Cycle" (with Thomas Winberry)
2018-19	Michigan Institute for Teaching and Research in Economics Junior Faculty Research Award for "The Nominal Anchor: Measurement and Theory" (with Andres Blanco)
2017-18	National Science Foundation Award for "Does Firm Heterogeneity Matter for Aggregate Dynamics? Evidence from the Allocation of Capital and Labor" (co-PI with Thomas Winberry)
2017-18	Excellence in Refereeing Award 2017, *American Economic Review*
2017-18	Michigan Institute for Teaching and Research in Economics Junior Faculty Research Award for "Search-and-Matching in the Physical Capital Market: Micro Evidence and Theory"
2016-17	Excellence in Refereeing Award 2016, *American Economic Review*
2016-17	Michigan Institute for Teaching and Research in Economics Junior Faculty Research Award for "Search-and-Matching in the Physical Capital Market: Micro Evidence and Theory"
2015-16	Michigan Institute for Teaching and Research in Economics and Chicago Initiative on Global Markets grants for "The Dynamics of Capital and Labor Misallocation in the United States" (with Thomas Winberry)

2014-15 Columbia University, Economics Department Dissertation Fellowship
2013 Wueller Teaching Award, Columbia University, Economics Department
2009-15 Columbia University, Economics Department Fellowship

Conference and seminar presentations

2023 Princeton University; Harvard Business School; Northwestern University; International Monetary Fund; Rutgers University; Federal Reserve Bank of St. Louis; KU Leuven; UCLA; Federal Reserve Bank of Philadelphia; Cowles Summer Macro Conference; Society for Economic Dynamics; Econometric Society Australasian Meeting (invited speaker); Universidad Torcuato Di Tella; Duke University; Georgetown University; Cornell University; Stanford University; Chicago BFI International Macro-Finance Conference; University of Notre Dame; Federal Reserve Bank of Richmond.

2022 MIT; NBER IFM; Columbia University; National University of Singapore; Federal Reserve Bank of San Francisco; UC Berkeley; Shanghai University of Finance and Economics; Peking University; Future of Financial Information Conference; Liquidity in Macroeconomics Workshop, Vancouver; University of Pittsburg; University of Maryland; Wisconsin Workshop in International Economics; CREI; Federal Reserve Bank of Richmond.

2021 University of Maryland; Boston University; Nova School of Business and Economics; NBER IFM; SF Fed Conference on Macro and Monetary Policy; University of Zurich; Bank of France; University of Sydney; University of Oklahoma; InterAmerican Development Bank; "Advancing Macro Finance" Workshop at the University of Chicago; Central Bank of Chile; Federal Reserve Bank of Kansas City; UT Austin; Search and Matching in Macro and Finance seminar series.

2020 Princeton University; University of Houston, Stony Brook University; Federal Reserve Board; FRB Dallas–U. of Houston–Bank of Mexico International conference; NBER IFM; Stockholm School of Economics; Paris School of Economics; Central Bank of Uruguay.

2019 London School of Economics; Federal Reserve Bank of Minneapolis; Federal Reserve Bank of Chicago; Federal Reserve Bank of New York; NBER EF&G; NBER IFM; Purdue University; Duke University; Federal Reserve Bank of Richmond; Rome Workshop in Macroeconomics; UC Davis; Johns Hopkins University; Macro Finance Society; NBER Asset Prices; UNC Chapell Hill; Chicago International Macro–Finance Conference; Atlanta / Emory Workshop on International Economics.

2018 University of Rochester; Barcelona GSE Summer Forum; NBER Summer Institute; Minnesota Workshop in Macroeconomic Theory; Bank of International Settlements; Boston College; New York University; University of New South Wales, University of British Columbia; University of Wisconsin-Madison; Chicago International Macro–Finance Conference.

2017 Harvard University; Columbia University; NBER Summer Institute; Brigham Young University; Penn State; The Wharton School; Michigan State University.

2016 University of Maryland; UC Santa Barbara (LAEF); Society for Economic Dynamics; NBER Summer Institute; Federal Reserve Bank of Chicago; Johns Hopkins University; University of Chicago Booth; UC Berkeley.

2015 CREI; Georgetown University; Stanford University; Penn State University; UC San Diego; University of Southern California; University of Notre Dame; Brown University; University of Wisconsin-Madison; Rutgers University; IADB; International Economics and Finance Conference (Antigua, Guatemala); Universidad de Montevideo; Society for Economic Dynamics; Summer Workshop on Money, Banking, Payments and Finance (Federal Reserve Bank of St. Louis); ITAM-PIER Conference on Macroeconomics (University of Pennsylvania).

Refereeing

American Economic Review, *Econometrica*, *Journal of Political Economy*, *Quarterly Journal of Economics*, *Review of Economic Studies*, *Journal of Finance*, *Review of Financial Studies*, *American Economic Journal: Macroeconomics*, *Economic Letters*, *International Journal of Central Banking*, *International Economic Review*, *Journal of Development Economics*, *Journal of Economic Dynamics and Control*, *Journal of Economic Theory*, *Journal of the European Economic Association*, *Journal of International Economics*, *Journal of Monetary Economics*, *Review of Economic Dynamics*, *Review of Economics and Statistics*.

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APPOINTMENTS

2023 - New York University, Department of Economics
Associate Professor

2020 - National Bureau of Economic Research
Faculty Research Fellow

2018 - 19 Princeton University
Visiting Assistant Professor and IES Kenen Fellow

2015 - 23 New York University, Department of Economics
Assistant Professor

EDITORIAL POSITIONS

2022 - Associate Editor, *Journal of International Economics*

EDUCATION

2015 Ph.D. in Economics, Stanford University
Dissertation: "Essays on Sovereign Debt and Monetary Economics"

2007 B.A. in Economics, Universidad de Montevideo

RESEARCH FIELDS

International Macroeconomics, Macroeconomics, Finance

PUBLICATIONS

Exorbitant Privilege and the Sustainability of US Public Debt (with Jason Choi, Duong Dang, and Rishabh Kirpalani), *American Economic Association Papers and Proceedings*, forthcoming.

The Secular Decrease in UK Safe Asset Market Power (with Jason Choi, Duong Dang, and Rishabh Kirpalani), *American Economic Association Papers and Proceedings*, 113, 2023, 120-24.

The Micro-Anatomy of Macro-Consumption Adjustments (with Rafael Guntin and Pablo Ottonello), *American Economic Review*, 2023, 113(8): 2201-2231.

Monetary Policy and Redistribution in Open Economies (with Xing Guo and Pablo Ottonello), *Journal of Political Economy: Macroeconomics*, 2023, 1:1, 191–241.

Are Collateral Constraint Models Ready for Macroprudential Policy Design? (with Pablo Ottonello and Paolo Varraso), *Journal of International Economics*, 139, 2022, 103650.

Currency Choice in Contracts (with Andres Drenik and Rishabh Kirpalani), *Review of Economic Studies*, 2022, 89(5)2529-2558.

Global Banks and Systemic Debt Crises (with Juan M. Morelli and Pablo Ottonello), *Econometrica*, 2022, 90 (2), 749-798.

Domestic Price Dollarization in Emerging Economies (with Andres Drenik), *Journal of Monetary Economics*, 2021, 122:38-55.

Price Setting under Uncertainty about Inflation (with Andres Drenik), *Journal of Monetary Economics*, 2020, 116:23-38.

The Currency Composition of Sovereign Debt (with Pablo Ottonello), *American Economic Journal: Macroeconomics*, 11(3), 2019, 174–208.

Wealth Redistribution After Exchange Rate Devaluations (with Andres Drenik and Gustavo Pereira), *American Economic Association Papers and Proceedings*, 108, 2018, 552-556.

Sovereign Debt Maturity Structure under Asymmetric Information, *Journal of International Economics*, 108, 2017, 243 - 259.

WORKING PAPERS

Bankruptcy Efficiency and Credit Cycles (with Martin Kornejew, Chen Lian, Yueran Ma and Pablo Ottonello), prepared for NBER Macroannual.

US Public Debt and Safe Asset Market Power (with Jason Choi and Rishabh Kirpalani), revise and resubmit (2nd round), *Journal of Political Economy*

Global Borrowing Costs and Firms' Risk in Open Economies (with Caitlin Hegarty, Matias Moretti and Pablo Ottonello)

The Exchange Rate as an Industrial Policy (with Pablo Ottonello and William Witheridge)

Sovereign Debt, Domestic Banks and the Provision of Public Liquidity, reject and resubmit, *Review of Economic Studies*

SCHOLARSHIPS, HONORS, AND AWARDS

2023	Morosoli Award (to Uruguayan culture), Uruguay, Fundacion L. Rubial
2018-19	Kenen Fellowship, International Economics Section, Princeton University
2018	National Prize in Economics (Premio Raul Trajtenberg) Uruguay, Udelar
2014-15	Kapnick Fellowship, SIEPR, Stanford University
2014	Landau Prize for Best Student Working Paper, SIEPR, Stanford University
2013	Latin American Studies Grant, CLAS, Stanford University
2010-12	Stanford H&S Fellowship, Stanford University
2010	Fulbright Grant for Graduate Studies, Uruguay
2003-06	Excellence Scholarship, Universidad de Montevideo

OTHER WORK EXPERIENCE

2013 Summer Associate, Goldman Sachs

2012 Consultant, the Brookings Institution

2006-10 Research Economist at CERES, a think tank that specializes in the macroeconomic analysis of Latin American economies

CONFERENCE AND SEMINAR PRESENTATIONS

2024 Atlanta Fed Workshop in International Macroeconomics, NBER IFM Spring Meeting, NBER ITI Spring Meeting, Johns Hopkins SAIS, NBER Macroannual Meeting, University of Southern California, KU Leuven, Oxford, Federal Reserve Board, University of Wisconsin Madison, University of Connecticut (includes scheduled)

2023 Duke, World Bank, Yale SOM finance, Rutgers, Pan-Asian Macro-Finance Seminar, CREI-UPF, SED Meetings (Cartagena), NBER Summer Institute (IAP), Stanford SITE, Universidad de Montevideo, NBER IFM Fall Meetings, Johns Hopkins SAIS, Purdue, Rice, Ohio State, Brown, NYU

2022 London School of Economics, NBER EF&G Fall Meeting, UC San Diego, Bank of Italy, Insper, Universidad Alberto Hurtado, Johns Hopkins University, Stanford GSB finance, Boston College, International Macro-Finance Conference (Chicago Booth)

2021 NBER IFM Spring Meeting, University of Chicago, Central Bank of Chile, San Francisco Fed Macro and Monetary Policy Conference, Central Bank of Uruguay, CBC-IDB Conference on Financial Frictions, Canadian Economic Association Conference, SED Meetings (Minneapolis), Annual Meetings of the Central Bank of Uruguay, Universidad de la Republica (Uruguay), NBER IFM Fall Meeting, George Washington University, RIDGE Workshop in International Macroeconomics

2020 Saint Louis Fed, Universidad de Montevideo, Econometric Society World Congress, NBER IFM Fall Meeting, University of Maryland, University of Michigan

2019 Columbia, NBER EF&G Fall Meeting, International Economics and Finance Conference (Jamaica), Columbia Junior Macro Meeting, Chicago Fed, NYU, Princeton, Rutgers, Stanford, UC Santa Cruz, NBER Summer Institute (EFGMB), University of Wisconsin Madison, University of Pennsylvania, University of Houston, Annual Conference of the Chair Banque de France-PSE, Philadelphia Fed, University of Albany, International Macro-Finance Conference (Chicago Booth)

2018 ASSA Meetings 2018, 2018 Winter Meeting of the Econometric Society, Warwick, SED Meetings (Mexico), NBER IFM Spring Meeting

2017 UCLA, Rochester, NBER Summer Institute (EFGMB), Fordham University, NYU

2016 Yale, Federal Reserve Board, Minneapolis Fed, SED Meetings (Toulouse), NBER Summer Institute (IFM), NYU, Boston University, International Macro-Finance Conference (Chicago Booth), Atlanta Fed Workshop in International Economics

2015 University of Washington, University of Notre Dame, CEMFI, UCL, Columbia University, Brown University, Philadelphia Fed, New York University, Georgetown University, International Economics and Finance Conference (Guatemala), Harvard University, New Faces in International Economics Conference (Penn State), NBER Summer Institute (EFGMB and EFGPD), Econometric Society World Congress (Montreal), Wharton, International Macro-Finance Conference (Chicago Booth)

2014 Stanford University, Rookie Conference Chicago Fed, Recent Advances in Economics Conference (Universidad de Montevideo)

SHORT VISITING POSITIONS

Cowles Foundation Visitor (Yale) - March 2023
Federal Reserve Bank of Minneapolis - May 2016
Cowles Foundation Visitor (Yale) - April 2016

TEACHING EXPERIENCE

International Macroeconomics (PhD level), International Finance and Macroeconomics (Undergraduate level), Macroeconomics (Masters level)

PROFESSIONAL ACTIVITIES

Refereeing:

American Economic Journal: Macroeconomics, American Economic Review, American Economic Review: Insights, Econometrica, Economic Journal, Ensayos Economicos, European Economic Review, IMF Economic Review, International Economic Review, Journal of Applied Economics, Journal of the European Economic Association, Journal of Finance, Journal of International Economics, Journal of Monetary Economics, Journal of Political Economy, Journal of Political Economy Macroeconomics, Management Science, National Science Foundation, Quantitative Economics, Quarterly Journal of Economics, Review of Economic Dynamics, Review of Economics and Statistics, Review of Economic Studies

Conference Organizations:

Scientific Committee of: European Economic Association Meeting 2024; RIDGE International Macroeconomics 2021, 2023; Uruguayan Economics Society (SEU) 2022. Program Committee Member of: Society of Economic Dynamics (SED) Meetings 2020-23; CEBRA Annual conference 2023; Econometric Society 2020 World Congress. Organizer of American Economic Association Meetings 2018, Paper Session "Prices and Exchange Rates in Open Economies."

PHD STUDENTS

[committee member, *italics* if main/co-main advisor] *Juan M. Morelli* (Fed Board), Don Jayamaha (PwC), *Rafael Guntin* (Rochester), *Matias Moretti* (Princeton Postdoc, then Rochester), *Paolo Varraso* (Tor Vergata), *William Witheridge* (Maryland)