

### Santiago Camara

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**Fields** Research: International macroeconomics, monetary policy, finance, international trade  
Teaching: Macroeconomics, Finance, international economics

**Education:** Ph.D., Economics, Northwestern University, 2023 (anticipated)  
Dissertation: "Essays in Financial Frictions in Open Economies"  
Committee: Martin Eichenbaum (Chair), Lawrence Christiano, Giorgio Primiceri, Matthew Rognlie  
M.A. Economics, Northwestern University, 2018  
M.A. Economics, Universidad de San Andres, 2015  
B.A. Economics, Universidad de Buenos Aires, 2013. Magna Cum Laude

**Job Market Paper** **Borrowing Constraints in Emerging Markets.** *Joint work with M. Sangiacomo* (BCRA). Borrowing constraints are a key component of modern macroeconomic models. The analysis of Emerging Markets (EM) economies generally assumes that firms' access to debt is constrained by the value of their collateral. Using credit-registry data and exploiting banking regulations from Argentina for the period 1998-2020 we show that less than 10% of firms' debt is based on asset values, with the remaining 90% based on firms' cash-flows. Exploiting Central Bank regulations over banks' capital requirements and credit policies we argue that the most prevalent borrowing constraints is defined in terms of the ratio of their interest payments to a measure of their present and past cash flows, akin to the "interest coverage" borrowing constraint studied by the corporate finance literature. We argue that Argentina exhibits a greater share of interest sensitive borrowing constraints than the US and other Advanced Economies. We claim that this result can be extrapolated to other EMs by showing that firms' interest payments are strongly and positively correlated with their cash flows for a panel of firms from 13 EMs, a novel stylized fact to the literature. We show that in an otherwise standard small open economy DSGE model, an "interest coverage" borrowing constraints leads significantly stronger amplification of foreign interest rate shocks compared to the standard collateral constraints. This greater amplification provides a solution to the Spillover Puzzle of US monetary policy rates by which EMs experience greater negative effects than Advanced Economies after a US interest rate hike. In terms of policy implications, this greater amplification demonstrates how a managed exchange rate policy is more costly in the presence of an interest coverage constraint, given their greater interest rate sensitivity, compared to the standard collateral borrowing constraint.

## Other Papers

**Spillovers of US Interest Rates: Monetary Policy & Information Effects, Revised & Resubmit at Journal of International Economics.**

This paper quantifies the international spillovers of US monetary policy by exploiting the high-frequency movement of multiple financial assets around FOMC announcements. I use the identification strategy introduced by Jarocinski & Karadi (2020), which exploits both the high frequency movements of interest rates and the S&P 500, to identify two FOMC shocks: a pure US monetary policy and an information disclosure shock. These two FOMC shocks have intuitive and very different international spillovers over both Emerging and Advanced Economies. On the one hand, a US tightening caused by a pure US monetary policy shock leads to an economic recession, an exchange rate depreciation and tighter financial conditions. On the other hand, a tightening of US monetary policy caused by the FOMC disclosing positive information about the state of the US economy leads to an economic expansion, an exchange rate appreciation and looser financial conditions. I argue that ignoring the disclosure of information by the FOMC biases the impact of a US monetary policy tightening and may explain recent atypical findings which suggest an expansionary impact of US monetary policy shocks on the rest of the world.

**Sterilized FX Interventions: Benefits and Risks. Joint work with Lawrence Christiano (Northwestern University) and Husnu Dalgic (Mannheim University).**

In recent decades central bankers in many countries use sterilized intervention to smooth exchange rate fluctuations while interest rate policy is used to meet domestic policy objectives about inflation and output. This approach to policy contemplates that central bankers in effect have two tools. We explain why it is that in standard open economy models, monetary policy makers in fact have only one tool. We discuss what extra model ingredients are required to justify the second tool, which creates the possibility of pursuing domestic and foreign objectives simultaneously. We use a small open economy model to illustrate our observations and to discuss the benefits and potential pitfalls of using the two tools, when circumstances justify the availability of both tools. In the model, there are financial shocks that shift the exchange rate and disrupt local demand by inflicting capital losses and gains on the balance sheets of investing firms. We investigate the welfare consequences of using sterilized foreign asset purchases and sales to mitigate these disruptions, by minimizing potentially disruptive interest rate changes. We also examine the risk that the central bank under-estimates the persistence of a financial market shock and that sterilized intervention leads it to run dangerously low on foreign reserves.

**The Transmission of US Monetary Policy Shocks: The Role of Investment & Financial Heterogeneity. Joint work with S. Ramirez Venegas (CMF).**

This paper studies the transmission of US monetary policy shocks into Emerging Markets emphasizing the role of investment and financial heterogeneity. First, we use a panel SVAR model to show that a US interest tightening leads to a persistent recession in Emerging Markets driven by a sharp reduction in aggregate investment. Second, we study the role of firms' financial heterogeneity in the transmission of US interest rate shocks by exploiting detailed balance sheet dataset from Chile. We find that more indebted firms experience greater drops in investment in response to a US tightening shock than less indebted firms. This result is at odds with recent evidence from US firms, even when using the same identification strategy and econometric methods. Third, we rationalize this finding using a stylized model of heterogeneous firms subject to a tightening leverage constraint. Finally, we present evidence in support of this hypothesis as well as robustness checks to our main results. Overall, our results suggests that the transmission channel of US monetary policy shocks within and outside the US differ, a result novel to the literature.

**It's not always about money, sometimes it's about sending a message. Joint work with Yong Cai (Northwestern University) and Nicholas Capel (Amazon).**

This paper introduces a transparent framework to identify the informational content of FOMC announcements. We do so by modelling the expectations of the FOMC and private sector agents using state of the art computational linguistic tools on both FOMC statements and New York Times articles. We identify the informational content of FOMC announcements as the projection of high frequency movements in financial assets onto differences in expectations. Our recovered series is intuitively reasonable and shows that information disclosure has a significant impact on the yields of short-term government bonds.

**TANK meets Diaz Alejandro: Monetary policy with commodity consumption and household heterogeneity.**

This paper studies the role of two dimensions of household heterogeneity in the transmission of foreign shocks in a small open economy: (i) limited access to financial markets, (ii) consumption exposure to commodity-based goods. First, I use survey data from Uruguay to show that low-income households have limited access to savings technologies and spend a significant share of their income on commodity-based goods while high-income households are more likely to save and spend a significantly lower share of their income on commodity-based goods. Second, I construct a Two-Agent New Keynesian model with two features inspired by Diaz Alejandro 1963's paper: (i) Ricardian and Hand-to-mouth households, and (ii) non-homothetic preferences over commodity goods. I show these features amplify foreign shocks and provide a rationale for Central Banks' *fear-of-floating* through a redistribution channel of monetary policy. I study the design of optimal policy regimes and find that households have opposing preferences over monetary and fiscal rules.

**Granular Linkages, Supplier Cost Shocks & Export Performance.**

This paper presents evidence on the granular nature of firms' network of foreign suppliers and studies its implications for the impact of supplier shocks on domestic firms' performance. To demonstrate this, I use customs level information on transactions between Argentinean firms and foreign firms. I highlight two novel stylized facts: (i) the distribution of domestic firms' number of foreign suppliers is highly skewed with the median firm reporting linkages with only two, (ii) firms focus imported value on one top-supplier, even when controlling for firm size. Motivated by these facts I construct a theoretical framework of heterogeneous firms subject to search frictions in the market for foreign suppliers. Through a calibration exercise I study the framework's predictions and test them in the data using a shift-share identification strategy. Results present evidence of significant frictions in the market for foreign suppliers and strong import-export complementarities.

**Work in Progress**

**The Trade Finance Doom Loop: Sovereign default, international trade and firm heterogeneity.** *Joint work with Maximo Sangiacomo.*

Sovereign default crises are associated with deep recessions and a collapse of international trade. This paper introduces a new channel through which an increase in sovereign risk leads to a sharp contraction in economic activity, productivity and international trade via a tightening of working capital constraints that hit exporting and importing activities particularly hard. Matching highly detailed firm-customs-credit registry data sets this paper measures the causal impact of increases in sovereign risk on firms' bank debt, exports and imports. We find that firms highly exposed to sovereign risk experienced lower debt, export and import growth. Furthermore, I show that firms with higher working capital needs (highly indebted firms) experienced lower export growth than firms less intensive in working capital. We use both micro, macro and estimated elasticities from Argentinean data as empirical targets for estimating the structural model. In a counterfactual analysis, we find that heightened sovereign risk was responsible for one-half of the observed output decline and two-thirds of export decline during the 2018-2019 crisis. These results are supporting evidence that the new channel presented in this paper is relevant in shaping both micro and macro level dynamics.

### Published Papers

**Don't Put All Your Eggs in Foreign Baskets: Motivating Trade Policy Before, During and After a Financial Crisis.** *Revista Economica de la Plata, Vol. LXVI, Number 1, 2020.*

**Financial Crises, Exporting and Dollar Credit Supply: An Application for the COVID-19 Pandemic.** Joint work with Maximo Sangiacomo. *IADB-INTAL Publication.*

### Fellowships & Awards

Northwestern TGS. Graduate Student Research Grant 2022.

Inter-American Development Bank (IADB): "*Trade & Integration in the Post COVID World*". 2020.

Banco de Chile: "*Summer Research Grant*". 2020

"*Julio H. G. Olivera*" Prize for Best Paper at the AAEP Annual Meeting. Awarded by the Academia Nacional de Ciencias Economicas. November 2019.

Becker Friedman Institute. Macro Finance Research Program. Latin America Early Career Scholar Program.

Universidad de San Andres. Fellowship that covered tuition on MA program.

Consejo Interuniversitario Nacional, Universidad de Buenos Aires. Research Scholarship 2012-2014.

### Teaching Experience

Teaching Assistant, Northwestern University, 2020-2021  
 Introduction to Macroeconomics (Prof. McKenzie & Prof. Witte Fall 2020-Winter2021)  
 Intermediate Microeconomics (Prof. Alessandro Pavan, Spring 2020)

Teaching Assistant, Kellogg School of Management, Northwestern University, 2018-2022  
 Introduction to Macroeconomics (Prof. Eberly & Prof. Papanikolaou)

### Research Experience

Summer Ph.D. Student Internship, International Monetary Fund, 2020  
 Research Assistant, Prof. Lawrence Christiano, Northwestern University, 2018-2021  
 Research Assistant, Prof. Juan Carlos Hallak, Universidad de San Andres, 2015-2016  
 Research Assistant, Prof. Daniel Heymann, Universidad de Buenos Aires, 2012-2014

<b>Conferences</b>	<p><b>2022.</b> Summer Meeting of the Econometric Society. 17th Economics Graduate Student Conference Washington University in St. Louis.</p>						
	<p><b>2021.</b> NOVA Business School Summer on Sovereign Default. WEAI presentation, WEAI Chair of Trade Agreements &amp; Preferences Session. Northwestern Economics Tournament, IMF Emerging Market Forum, Universidad de San Andres, Latin American Conference of the Econometric Society (LACEA/LAMES), 16th Economics Graduate Student Conference Washington University in St. Louis.</p>						
	<p><b>2020.</b> BFI-MFR Summer Session for Young Scholars at University of Chicago Universidad de San Andres, Red-NIE, Central Bank of Chile (Banco de Chile).</p>						
<b>Refereeing</b>	<p>Journal of Applied Economics (2019,2022). Top Reviewer Prize.</p>						
<b>Non-Academic Experience</b>	<p><b>Researcher &amp; Advisor. Ministry of Production of Argentina, 2016.</b></p> <p><b>Researcher &amp; Advisor. National Commission of International Trade, 2017.</b></p>						
<b>Languages</b>	<p>English (fluent), Spanish (native tongue), French (intermediate)</p>						
<b>References</b>	<table> <tr> <td data-bbox="406 1008 893 1228"> <p>Professor Martin Eichenbaum Department of Economics Northwestern University 2211 Campus Drive Evanston, IL 60208 847.491.8232 <a href="mailto:eich@northwestern.edu">eich@northwestern.edu</a></p> </td><td data-bbox="893 1008 1482 1228"> <p>Professor Lawrence Christiano Department of Economics Northwestern University 2211 Campus Drive Evanston, IL 60208 847.491.8231 <a href="mailto:l-christiano@northwestern.edu">l-christiano@northwestern.edu</a></p> </td></tr> <tr> <td data-bbox="406 1249 893 1470"> <p>Professor Giorgio Primiceri Department of Economics Northwestern University 2211 Campus Drive Evanston, IL 60208 847.491.5395 <a href="mailto:g-primiceri@northwestern.edu">g-primiceri@northwestern.edu</a></p> </td><td data-bbox="893 1249 1482 1470"> <p>Professor Matthew Rognlie Department of Economics Northwestern University 2211 Campus Drive Evanston, IL 60208 847.491.8215 <a href="mailto:matthew.rognlie@northwestern.edu">matthew.rognlie@northwestern.edu</a></p> </td></tr> <tr> <td data-bbox="406 1491 893 1621"> <p>Professor Guido Lorenzoni School of Business University of Chicago <a href="mailto:Guido.Lorenzoni@chicagobooth.edu">Guido.Lorenzoni@chicagobooth.edu</a></p> </td><td data-bbox="893 1491 1482 1621"></td></tr> </table>	<p>Professor Martin Eichenbaum Department of Economics Northwestern University 2211 Campus Drive Evanston, IL 60208 847.491.8232 <a href="mailto:eich@northwestern.edu">eich@northwestern.edu</a></p>	<p>Professor Lawrence Christiano Department of Economics Northwestern University 2211 Campus Drive Evanston, IL 60208 847.491.8231 <a href="mailto:l-christiano@northwestern.edu">l-christiano@northwestern.edu</a></p>	<p>Professor Giorgio Primiceri Department of Economics Northwestern University 2211 Campus Drive Evanston, IL 60208 847.491.5395 <a href="mailto:g-primiceri@northwestern.edu">g-primiceri@northwestern.edu</a></p>	<p>Professor Matthew Rognlie Department of Economics Northwestern University 2211 Campus Drive Evanston, IL 60208 847.491.8215 <a href="mailto:matthew.rognlie@northwestern.edu">matthew.rognlie@northwestern.edu</a></p>	<p>Professor Guido Lorenzoni School of Business University of Chicago <a href="mailto:Guido.Lorenzoni@chicagobooth.edu">Guido.Lorenzoni@chicagobooth.edu</a></p>	
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