

Jeremiah Manuel Bejarano

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Researcher with expertise in financial stability specializing in short-term funding markets and asset pricing. Passionate about innovative uses of generative and agentic AI in quantitative workflows.

Research Fields

Primary: Financial economics, financial stability

Secondary: intermediary asset pricing, machine learning

Experience

Research Economist, Office of Financial Research (OR-53/GS-13) Aug 2, 2021-present U.S. Department of the Treasury

40 hrs/week

- **Assisted with rule writing and implementation of the OFR NCCBR data collection.** Served as a subject-matter expert to assist with the rule-writing and implementation of the OFR's data collection for certain non-centrally cleared bilateral repo (NCCBR) transactions in the U.S. repurchase agreement ("repo") market (88 FR 1154 [Jan 9, 2023] and 89 FR 37091 [May 6, 2024], to be codified at [12 CFR 1610.11](#)).
- **I lead OFR's Short-Term Funding Working Group**, providing direction and advice to a team performing research that focuses on financial stability within short-term funding markets. (Co-leader since March 2022, sole leader since June 2023). Within this role, I lead a cross-divisional effort to enhance OFR's public-facing short-term funding monitor (including training new members of the data science team). The upgraded monitor is available [here](#).
- **I serve as a member of the FSOC Artificial Intelligence Working Group.** Since Oct. 2025, I have served as the OFR's designated representative on FSOC's newly established AI Working group, designed to explore the opportunities and risk associated with the adoption of AI in government and across financial institutions. (See news coverage [here](#).)
- **Led a major update of the OFR's public-facing Financial Stress Index (FSI) risk monitor.** I designed a revised statistical methodology that would allow the FSI to seamlessly transition from the old LIBOR-based rates to the new replacement rates. I wrote the code to power this monitor and brought together the operations and technology teams to implement this update. I authored a white paper ([OFR Working Paper 23-07](#)) and fact sheet and contributed to some publicity efforts. The data produced by my code is used by various financial institutions and is available [online](#) and in the Bloomberg terminal. In 2022 the FSI was featured in an Editor's Choice article in the [Financial Times](#).
- **Proposed and developed internal OFR ChartBase: a web-based software catalog associated Python Package.** The "RAC ChartBase" is a software and research catalog, with code templates and documentation, and an associated internal Python package. This ChartBase enables research teams to turn their data science projects, including associated visualizations and derived data sets, into reproducible analytical pipelines and share them in a centralized, searchable, and continuously refreshing data base of code, data sets, and charts (e.g., the analytics are refreshed automatically as new data arrives).

Lecturer, Financial Mathematics (August Review)

The University of Chicago

3 hrs/week

Jul 31-Sep 22, 2024 and

Jul 30-Aug 9, 2024 and

Jul 25-Aug 15, 2023 and

Aug 5-26, 2022

- Taught a review course on Python programming for data science and finance.
- In 2025, I also taught a “September Launch” workshop designed to introduce students to time series forecasting with machine learning models and creating interactive dashboards.

Lecturer, Financial Mathematics (Full-Stack Quantitative Finance) **Jan 5-Mar 14, 2026**
The University of Chicago **Jan 6-Mar 15, 2025**
 15 hrs/week **Jan 3-Mar 9, 2024**

- Proposed and developed a [new course](#) (formerly called Data Science Tools for Finance) focused on a core set of practical computing tools and techniques common within data science and quantitative finance, with a special emphasis on those necessary to build reproducible and scalable workflows (e.g., reproducible analytical pipelines).
- Supervised 19 teams (4-5 students each) over the course of the quarter as they completed individualized final projects in which they replicated results from well-known papers within the academic finance literature.

Teaching Assistant & Faculty Advisor, Financial Mathematics **Mar 20-Jun 3, 2023**
The University of Chicago
 2 hrs/week

- Served as teaching assistant for fixed income and fixed income derivatives class.
- Met with a small group of master’s students once a week to advise on applying their training from university courses to carry out an applied research project in financial mathematics.

Faculty Advisor, Financial Mathematics **Oct 28-Dec 31, 2022**
The University of Chicago
 0.5 hrs/week

- Met with a small group of master’s students once a week to advise on applying their training from university courses to carry out an applied research project in financial mathematics.

PhD Researcher, Department of Economics **Jun 22, 2015-Jun 9, 2021**
The University of Chicago
 40 hrs/week

- Conducted original research on macroeconomic networks and their implications for asset markets.
- Participated in asset pricing and macroeconomics research workshops. Presented my research and provided feedback to other researchers.

College Lecturer, Department of Economics **Mar 1-Jun 15, 2018 & 2019**
The University of Chicago
 20 hrs/week

- Independently developed and taught a new course (Computational Methods in Economics/ECON 21410) to advanced undergraduate students in a classroom setting twice weekly and managed a teaching assistant.
- Received extremely positive feedback and won an undergraduate teaching award in June 2019.

Teaching Assistant **Oct 1-Dec 31, 2015-2019**
The University of Chicago
 10 hrs/week

- Served as teaching assistant for 16 undergraduate, master's, and MBA courses across five academic years, including:
 - FINM 36700: Portfolio Theory and Risk Management I (MA)
 - FINM 35000: Topics in Economics (MA)
 - STAT 32940: Multivariate Data Analysis via Matrix Decomposition (MA)
 - BUSF 35001: Introductory Finance (MBA)
 - BUSX 35880: Portfolio Management (MBA)
 - ECON 21000: Econometrics (undergraduate)

Research Assistant

Oct 1, 2010-Sep 30, 2013

Brigham Young University

15 hrs/week

- Collected data, contributed to the development of the underlying economic model, and wrote software to implement the solution of a model of optimal sales and income taxation in a heterogeneous agent model.
- Assisted with research on an economic model of moral hazard within hedge funds. Reviewed and summarized relevant academic literature and helped plan out development of the economic model.

Education

The University of Chicago

Sep 30, 2013-Jun 12, 2021

PhD in Economics (June 2021)

MA in Economics (June 2016)

Thesis Title: [*"Essays in Macroeconomics and Finance"*](#)

Brigham Young University

Sep 1, 2006-Aug 15, 2013

BA in Economics

BS in Mathematics

Honors, Scholarships, and Fellowships

Beryl W. Sprinkle PhD Fellowship, 2018-2019

Undergraduate Teaching Award, 2019

PhD Research Support Grant, Fama-Miller Center for Research in Finance, 2016

National Science Foundation Graduate Research Fellowship, Honorable Mention, 2013-14

University of Chicago Social Sciences Fellowship, 2013-2018

Volunteer Experience

Full-Time Service Missionary

Jan 2007-Feb 2009

The Church of Jesus Christ of Latter-Day Saints

Zagreb, Croatia

Works in Progress

"The Intraday Characteristics of Repo Rate Spikes"

with Luke Olson (OFR)

Leveraging unique regulatory repo data, we provide insights into the causes and dynamics of the repo rate volatility of 2019. By analyzing the intraday evolution of rates across different repo market segments, we shed new light on the roles of intraday liquidity constraints (e.g., balance sheet constraints and resolution requirements), market segmentation, and information transmission in driving extreme rate movements. Our findings contribute to the ongoing debate about the structure of repo markets and have important implications for monetary policy implementation and financial stability in an era of seemingly abundant reserves.

“The Role of Funding Segmentation on Arbitrage Spreads”

with Adrien d'Avernas (Stockholm School of Economics) and Quentin Vandeweyer (University of Chicago Booth School of Business)

Since the gradual roll-on of post-crisis regulation in the 2010's, many arbitrage spreads, or bases, have opened up or widened. Examples include the Treasury cash-futures, CDS-Bond, or cross-currency bases. In this paper, we investigate how hedge funds, as the least-constrained institutions, have taken advantage of these opportunities but are nevertheless constrained in their ability to fully arbitrage away these spreads due to constraints on the ability of their creditors to fund the trades. Furthermore, we test the hypothesis that the low correlation among arbitrage spreads is due to segmentation across the funding markets for these trades. To explore these hypotheses, we use regulatory Form PF filings to identify funds with exposures to each trade and construct a trade-dealer-time panel based on these exposures. We then propose a shift-share instrument to identify the effect of credit supply shocks on each trade.

Working Papers

“Negative Treasury Haircuts” (2025)

with Lina Lu (Federal Reserve Bank of Boston) and Jonathan Wallen (Harvard Business School)

[HBS Working Paper 26-034](#)

We study the supply of leverage in the Treasury market by large dealer banks. On average, leverage is greater than 100%. Negative haircuts are inconsistent with canonical theories of collateralized lending. For dealer banks, bundling counterparty credit risk with Treasury repo is an attractive regulatory arbitrage. We show that the balance sheet capacity of dealer banks is an important driver of their supply of leverage. Their ability to warehouse Treasuries on balance sheet enables them to avoid fire sales and lend at higher leverage. This supply of leverage is cyclical and increases the fragility of the Treasury market.

“An Open Benchmark for Evaluating Time Series Forecasting Methods across Financial Markets” (2026)

with Viren Desai, Kausthub Keshava, Arsh Kumar, Zixiao Wang, Vincent Hanyang Xu, and Yangge Xu

[Working Paper](#)

Financial regulators and researchers have emphasized forward-looking risk monitoring to address systemic vulnerabilities. This paper benchmarks state-of-the-art global time series forecasting methods, which have proven superior in the time series literature, on a wide-ranging suite of financial datasets. Benchmarks drive progress, and our systematic evaluation of over a dozen forecasting methods ranging from classical models to modern deep learning architectures reveals which approaches best capture early warning signals across different market segments. We evaluate these methods on critical financial

stability metrics including arbitrage basis spreads that signal funding market stress, banking indicators that reveal institutional vulnerabilities, and asset returns across multiple markets. To enable reproducible research and continuous improvement in financial forecasting, we develop an open-source financial time series forecasting repository that standardizes these datasets according to canonical academic methodologies. Our results provide financial stability authorities with evidence-based guidance on which forecasting approaches most reliably detect emerging risks in specific market segments, directly enhancing the toolkit for macroprudential surveillance and systemic risk monitoring. Consistent with decades of empirical finance, returns remain extremely difficult to forecast, yet machine-learning-based global models yield meaningful accuracy gains for basis spreads, liquidity metrics, and other supervisory indicators where classical baselines fall short.

“The Transition to Alternative Reference Rates in the OFR Financial Stress Index” (2023)
[OFR Working Paper 23-07](#)

The OFR Financial Stress Index (OFR FSI) is a daily market-based snapshot of stress in global financial markets that is constructed from 33 financial market variables. As of the time of writing, seven of these variables rely on obsolete reference rates. Since its inception, the OFR FSI was intended to allow for the periodic replacement of obsolete variables as the need arises. In this paper, I introduce replacements for these seven obsolete variables, and I make explicit the procedure with which the OFR FSI incorporates these new variables. Furthermore, I demonstrate generally that this replacement procedure produces an index with the following desirable properties: (1) the index is a weighted sum of the presently included variables; (2) removed variables no longer directly affect the index, and newly included variables do not modify historical values of the index; (3) the index uses all available historical data on the newly included variables to train the model; and (4) the volatility of the index is roughly comparable before and after the replacement

“A Big Data Approach to Optimal Sales Taxation”

with Christian Baker, Richard W. Evans, Kenneth L. Judd, and Kerk L. Phillips. [NBER Working Paper # 20130](#) (inactive)

“Characterizing the Role of Dividend Dynamics in the Term Structure of Equity Risk Premia”

Chapter 1 of [Dissertation](#)

I characterize the relationship between dividend dynamics and the term structure of equity risk premia. Within a class of log-linear asset pricing models, I show that the risk exposure associated with dividend futures is equal to the impulse response function of dividends and that the average slope of the term structure depends on the relationship between the permanent and transitory components of dividends. Going beyond the class of log-linear models, I then explore the consequences of adding a transitory, mean-reverting component to dividend dynamics within several classic asset pricing models, such as the extended consumption capital asset pricing model and an external habits model. Recent empirical evidence suggests that the term structure of equity may be downward sloping on average, which is at odds with the traditional specification of many common asset pricing models. I show that this potential discrepancy can be reconciled by adjusting cash flow growth dynamics in the proposed way.

“Sectoral Shifts, Production Networks, and the Term Structure of Equity”

Chapter 2 of [Dissertation](#)

I argue that the term structure of equity as characterized by expected holding period returns on dividend strips can be used as a diagnostic to evaluate the quantity dynamics that arise in a macroeconomic model. For instance, as shown in the first chapter, the risk exposures associated with dividend futures are equal to the impulse responses of aggregate consumption with respect to the underlying shocks. As an application, I derive the asset pricing implications of a multi-sector production network model and use this to shed light on the relative importance of idiosyncratic and aggregate total factor productivity (TFP) shocks. Though aggregate TFP in the U.S. over the last 60 years has grown approximately 1.4 percent annually, these gains have been dispersed across individual sectors, with some sectors even seeing substantial declines. This dispersion is either the result of idiosyncratic sectoral shocks or aggregate shocks that shift the composition of the economy without necessarily affecting long-run aggregate output. Decomposing the contribution of each shock to this term structure of equity, I show that the shift shocks contribute to a downward sloping term structure of equity while others contribute to an upward sloping term structure. Thus, imposing a downward sloping term structure in this model amounts to putting a lower bound on the contribution of aggregate shifts relative to other shocks.