

Daniel Batista da Silva

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Research Interests

Quantitative Asset Pricing; Volatility and Tail Risk; High-Frequency Finance; Portfolio Construction; Financial Econometrics

Education

Université de Genève – Swiss Finance Institute

Ph.D. in Finance

Advisor: Olivier Scaillet

Geneva, Switzerland

2021 – 2027 (expected)

São Paulo School of Economics – FGV

M.S. in Economics

Thesis: Semivolatility Managed Portfolios

Advisor: Marcelo Fernandes

São Paulo, Brazil

2019 – 2021

Federal University of Ceará

B.S. in Economics

Thesis: Forward-looking behavior of Brazilian non-earmarked household credit

Advisor: Paulo Matos

Fortaleza, Brazil

2015 – 2018

Research Papers

The Jump–Diffusion Anatomy of Semibetas

Work in Progress

- Decomposes realized semibetas into continuous and jump components using high-frequency data and studies their cross-sectional prices of risk within a continuous-time Fama–MacBeth framework.

Semivolatility-Managed Portfolios

Working Paper

with Marcelo Fernandes

[SSRN](#)

- Develops portfolio strategies that jointly exploit upside and downside volatility, evaluates their risk-adjusted performance across equity factors, anomaly portfolios, and ETFs, and provides inference for Sortino-ratio comparisons.

Upside Risk and Return Timing in Bitcoin

Under Review

with Marcelo Fernandes

[SSRN](#)

- Shows that Bitcoin volatility spikes frequently reflect favorable upside states and that distinguishing upside from downside volatility improves risk-adjusted performance by avoiding indiscriminate deleveraging after positive volatility shocks.

Spectral Risk Factors and the Limits of Spanability

Working Paper

- Decomposes major risk factors into horizon-specific components and studies whether these risks can be represented and hedged by sparse portfolios of traded assets.

Conferences

- 2026** XXVI Brazilian Finance Meeting (EBFin), Fortaleza, Brazil
Presented: Semivolatility-Managed Portfolios; Upside Risk and Return Timing in Bitcoin; Spectral Risk Factors and the Limits of Spanability
- 2025** SFI PhD Workshop, Zurich, Switzerland
Presented: Spectral Risk Factors and the Limits of Spanability
Discussed: “Beyond Credit Spreads: What Loan Fund Flows Reveal about Real Activity?” by Wing Lam Cheung
- 2025** QMUL PhD Workshop, Queen Mary University of London, London, UK
Presented: Spectral Risk Factors and the Limits of Spanability
- 2025** São Paulo School of Advanced Science on High Dimensional Models (SPSAHDM), São Paulo, Brazil
Presented: Semivolatility-Managed Portfolios
- 2024** Annual Conference of the International Association for Applied Econometrics (IAAE), Thessaloniki, Greece
Presented: Semivolatility-Managed Portfolios
- 2024** SFI Research Days, Study Center Gerzensee, Switzerland
Presented: Semivolatility-Managed Portfolios
Discussed: “What Is the Consumption–Wealth Return?” by Paul Schneider, Marc Van Uffelen, and Paul Whelan
- 2023** Financial Econometrics Meets Machine Learning (FinEML), Rotterdam, Netherlands
Presented: Semivolatility-Managed Portfolios
- 2023** IFABS 2023 Oxford, Oxford, UK
Presented: Semivolatility-Managed Portfolios
- 2023** FMA European Conference, Aalborg, Denmark
Presented: Semivolatility-Managed Portfolios
Discussed: “Which Is Worse: Heavy Tails or Volatility Clusters?” by Joshua Traut and Wolfgang Schadner

Research Experience

- Ph.D. Researcher – Asset Pricing and Financial Econometrics** 2021 – Present
- Conduct empirical research using high-frequency, time-series, and large cross-sectional financial datasets.
 - Develop reproducible research pipelines for data processing, econometric estimation, portfolio construction, and backtesting.
 - Implement statistical inference, simulation, robustness, and out-of-sample analyses primarily in R and Python.

Industry Experience

B3 – Brasil, Bolsa, Balcão

São Paulo, Brazil

Risk Analyst II, Risk Parameters Modeling Division

2020 – 2021

- Developed and validated market-risk parameters used in B3's CORE central counterparty risk model.
- Estimated and proposed initial risk parameters for new products, including IPOs and newly listed ETFs, supporting pre-launch calibration and Risk Committee approval.
- Monitored parameter stability and risk metrics under normal and stressed market conditions.

Intern, Risk Parameters Modeling Division

2019 – 2020

Teaching Experience

University of Geneva

2022 – Present

Teaching Assistant: Financial Econometrics; Stochastic Processes in Finance; Quantitative Risk Management

Instructor: Python short courses for finance and statistics

São Paulo School of Economics – FGV

2019 – 2020

Teaching Assistant: Introduction to Stochastic Processes; Econometrics of Financial Series

Instructor: R short courses

Federal University of Ceará (UFC)

2016 – 2018

Head Teaching Assistant: Calculus; Statistics; Econometrics

Refereeing

Ad Hoc Referee, Brazilian Review of Finance

2021

Skills

Programming: R (advanced), Python (advanced), MATLAB (intermediate)

Methods: asset pricing; financial econometrics; stochastic processes; realized measures; volatility and jump models; portfolio optimization; statistical inference; Monte Carlo simulation

Data: time-series data; high-frequency financial data; panel data; large cross-sectional datasets

Tools: L^AT_EX, Git, Linux

Languages

Portuguese (native), English (fluent), French (advanced), Spanish (intermediate)