RAVI JOSHI

rjosh15@lsu.edu | Cell: 248-805-3614| https://joshiravi.com/

ACADEMIC HISTORY

Ph.D. in Finance, Louisiana State University   2020-2025

M.S. in Physics and Mechanical Engineering, Michigan Technological University   2011-2013

B.S in Mechanical Engineering, Motilal Nehru National Institute of Technology   2006-2010

WORKING PAPERS

Job Market Paper: Arbitrage Effectiveness and Stablecoin Run. SSRN Link

Presenting 2025: University of Chicago, University of Sydney, IIM-C, CCPF, SEC

Abstract: Arbitrage is one of the most critical mechanisms in well-functioning financial markets. Stablecoins, designed to maintain dollar parity through arbitrage, provide a natural laboratory to study this mechanism under stress. This paper uses extremely granular data to study Terra stablecoin's arbitrage failure, which occurred 48 hours before the May 9, 2022, 5 PM depeg. I develop a generalized methodology applicable to all safe assets, using stablecoin pricing data, to measure arbitrage effectiveness in stablecoins. I further show that the declining collateral value and increasing marginal trading costs in Terra's blockchain acted as frictions to arbitrage effectiveness. I use order book data to show the microstructure of the run dynamics that followed. I show that liquidity vanished first on smaller exchanges and persisted longest on Binance, the deepest market. Results are consistent with arbitrage–run tradeoff models under extreme arbitrage concentration: unlimited participation supports price correction but amplifies run risk. My results have important implications for the stability of safe assets in general.

New Limits to Arbitrage: Evidence from Crypto Perpetual Futures Markets. with Don Chance Link

Abstract: Perpetual futures rely on funding rates for their arbitrage mechanism. Using Terra, FTX, and Silicon Valley Bank collapses as natural experiments and crypto perpetual futures as a laboratory, we document an anomaly: similarly severe crises produce opposite effects on arbitrage functionality in perpetual futures. Applying the global games framework, we model arbitrageurs' stay-or-exit decisions as functions of a public signal (spot volatility) and private signals (adverse selection costs). We identify a volatility threshold at which the marginal effect of adverse selection on arbitrage capital flips from stabilizing to destabilizing—triggering a coordination-driven run. During Terra's collapse, Ethereum's volatility exceeded this threshold (1.8%/hour); open interest fell by 65%, and funding rates ceased correcting the basis. During the FTX and SVB episodes, we find no significant threshold despite comparable severity; arbitrage effectiveness remained intact and funding rates corrected basis. Our findings demonstrate that arbitrage breakdowns arise from endogenous coordination thresholds during periods of market stress, bridging classical limits-to-arbitrage theory with global games coordination frameworks.

Information Dynamics and Run on Stablecoin: SSRN Link

Presentations: University of Sydney SBFC, 9th Rutgers–ATP India Symposium, IIM Bangalore

Abstract: Information costs, borne by both liquidity providers and takers, are pivotal to studying run dynamics. When beliefs turn noisy, market makers price in much higher information risk: the spike in adverse selection signals heightened caution and willingness to quote only at wider spreads. This paper uses extremely granular trade data from major crypto exchanges to estimate hourly adverse selection of various cryptocurrencies around the May 2022 Terra run episode. I show that stablecoins can rapidly transition from information-insensitive to information-sensitive assets. In calm markets, assets like Bitcoin naturally command higher information costs than stablecoins. Terra exhibits very low adverse selection costs among major cryptocurrencies (0.34 bps), behaving as an information-insensitive asset.

However, during the run on May 7, its costs surged to 101.9 bps, surpassing those of fiat-backed stablecoins (USDT: 2.5 bps; USDC: 0.15 bps) and even Bitcoin (25.6 bps), signaling severe information asymmetry. I show that flight-to-safety dynamics occur during run episodes in the stablecoin market, similar to the dynamics observed in runs on Money Market Mutual Funds (MMMF).

The Internet and the Housing Market with Carlos Slawson
Abstract: I study the effect of broadband access on the price and availability of mortgage credit. Results of my study suggest that with the increase in broadband access, the interest rate decreases while the loan amount increases. I also analyze whether the broadband usage will increase the competition among the mortgage lenders, but I find no support for this idea. I describe several mechanisms that could be driving the results. Overall, my results shed light on the correlation between broadband access and the housing market.

WORK IN PROGRESS

Regulation, Market Efficiency, and Risk Segmentation in Bitcoin

Abstract: I examine how two opposing regulatory shocks—China's cryptocurrency ban restricting market access and the U.S. SEC's Bitcoin futures ETF approval facilitating institutional adoption—affected Bitcoin's market efficiency and risk structure. Using high-frequency cross-jurisdictional and intra-jurisdictional Bitcoin trade and order book granular data from various exchanges, I analyze price distortions, arbitrage opportunities, trading frictions, and the concentration or dispersion of risk. My initial findings provide empirical evidence on how regulatory interventions shape decentralized markets, influencing price synchronization, liquidity, and risk structure of Bitcoin. This study contributes to the literature on financial regulation and market microstructure, offering insights for policymakers and investors.

PUBLICATIONS

Valuation when disaster risks increase at an increasing rate, with Kelly Pace and Rajesh Narayanan, *Economics Letters* Volume: 224 (2023) ISSN: 0165-1765.

An exposition on Friedmann cosmology with negative energy densities, with Robert J. Nemiroff and Bijunath R. Patla, Published in *Journal of Cosmology and Astroparticle Physics, Volume 2015, June 2015.*

LSU TEACHING

FIN 4910: Introduction to FinTech and DeFi – 20 students. Rating (3.5/4)

FIN 3715,3716: Corporate Finance – over 400 students. Rating (3.1/4)

FIN 3826: FUND OF ASSET MGMT – 13 students. Rating (3.25/4)

FIN 7708: FINANCE ANALYTIC – 80 students (current class) Currently Teaching

AWARDS

Louisiana State University: *Incoming Doctoral Fellowship, Manuel Miller Fellowship*
National Math Olympiad: AIR 2 Kendriya Vidyalaya (KVS), INR 10000

INDUSTRY EXPERIENCE

General Motors: Michigan — Senior Machine Learning Engineer, ADAS   2021 – 2024

- Developed path planning and localization algorithms, deployed in 1M+ vehicles.

Ford Motor Company: Michigan — Connected Vehicle Product Engineer   2018 – 2020

- Drove end-to-end data architecture between vehicle systems and cloud platforms.

Fiat Chrysler Automotive: Michigan- Product Development Engineer   2014 – 2018

- Worked as a Mechanical Engineer responsible for the product development of exhaust and powertrain systems for Chrysler vehicles.

SKILLS

Python, R, SAS, Machine Learning, NLP, LLMs: Agent-to-agent communication

REFERENCES

Referee 1. **Don Chance (Advisor)**
Professor of Finance,
Louisiana State University,
dchance@lsu.edu

Referee 2. **Kelly Pace**
Professor of Finance,
Louisiana State University,
kelley@spatial.us

Referee 3. **V. Carlos Slawson Jr.**
Professor of Finance,
Louisiana State University,
cslawson@lsu.edu

Last Updated: December 2025