Tim Dong (Dong, Lebathong)

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EDUCATION

University of Tennessee – Haslam College of Business (08/2021 – Current)
- PhD in Finance

Rochester Institute of Technology – Saunders College of Business (09/2019 – 12/2020)
- Master of Science in Computational Finance

UEH – International School of Business (08/2014 – 08/2018)
- Bachelor of Business Administration, specialization in Finance

RESEARCH INTERESTS

Blockchain-economics, cryptocurrencies, fintech, decentralized economy, game theory

WORKING PAPERS

Towards pseudonymous undercollateralized loans (*Job Market Paper*)
I propose a novel mechanism that enables incentive-compatible, pseudonymous undercollateralized lending. Borrowers initially access credit through overcollateralized loans and, by consistently honoring their debts, become eligible for undercollateralized credit. Defaulting temporarily suspends access to undercollateralized credit, imposing an opportunity cost on the borrower. The paper helps formalize the theoretical foundation for undercollateralized loans on **Morpho.org**, **Teller.org** and **THORChain.org** by providing a framework to computing the optimal interest rate.
- Presented at EFA 2025; SWFA 2025; AEA Poster Session 2025; Cambridge Centre for Alternative Finance 2024; FMA 2024; SFA 2024; Australasian Finance & Banking Conference 2024; FMA 2025 - Doctoral Student Consortium

How Do Shareholder Defaults Influence Corporate Governance in DeFi lending? (co-author with *Valerie Laturnus* at *Durham University* and *Hao Zhang* at *Rochester Institute of Technology*)
Using DeFi activities and lending platform users voting data, we study how wealth shocks affect shareholders voting behavior. We find that users vote more when faced with higher loan pressure, suggesting that they vote to improve future experience.
- Presented at CBER 2025 (in collaboration with *Management Science*, *Columbia University, and New York University*); ToDeFi 2025 (DeFi-focused Conference by the Bank of Italy); Frontiers in DeFi 2025; SFA 2025 (scheduled)

Block size, miners discretion, and blockchain adoption (*Revise and Resubmit* at *International Review of Economics and Finance*)
Given Bitcoin's limitations, it is hard to explain how it remains in the dominance position. I show that because blockchain systems face a trade off between security and performance, Bitcoin's, and Ethereum's, simplicity make them the most secured, and thus the largest, cryptocurrencies.
- Presented at SWFA 2024; Financial Markets and Corporate Governance Conference 2023

On the limiting distribution of Proof-of-Stake (*Revise and Resubmit* at *Finance Research Letters*)
I reconcile conflicting findings on whether Proof-of-Stake induces centralization. Because users effectively pay validators, the equilibrium tilts toward large validators. The paper formalizes the rationale for mechanisms in Proof-of-Stake blockchains that discourage staking when an excessively large fraction of the token supply is staked.
- Presented at UC Berkeley Crypto Economics Security Conference 2022; UWA Blockchain Conference 2022; RMIT Fintech-Blockchain Conference 2022

WORK IN PROGRESS

Cryptocurrency Volatility Across Exchanges (co-author with *Jasper Pan* and *Alan Chernoff* at *The College of New Jersey*)

Despite debate over cryptocurrencies as money, they are used chiefly as speculative assets. A key barrier to broader adoption is their high, persistent volatility. We ask whether this volatility is uniform across trading venues. Using high-frequency transactions, we document large cross-exchange differences in realized volatility and extreme price jumps.

The evidence points to exchange-specific microstructure as first-order drivers of volatility, highlighting the role of venue heterogeneity in cryptocurrency market efficiency and risk.

Bitcoin's Unique Predictability (co-author with *James Nguyen* at *Texas A&M-Texarkana*)

We develop a model for pricing assets purely from their network without cash flow. We then test the model across different asset classes such as equities, commodities, and cryptocurrencies. As expected, the model does not work on equities and commodities. However, even within cryptocurrencies, only Bitcoin exhibits strong persistence of predictability, suggesting that investors value Bitcoin uniquely and purely for its network, not as an asset with utility or cash flow. Our discovery helps explain the puzzling high valuation of Bitcoin despite having no practical utility.

Pricing International Anomalies with ZCAPM (co-author with *James Kolari* and *Wei Liu* at *Texas A&M)*

The ZCAPM represents the first micro-founded asset pricing model that can outperform the factor models. We test whether ZCAPM can price anomalies across countries. The anomalies come from the work of Jensen, Kelly, and Pedersen (2023).

PROFESSIONAL SERVICES

University of Tennessee

- Primary Instructor for *Personal Finance - Fall 2023*: Average score 4/5
- Primary Instructor for *FinTech and Cryptocurrency - Spring 2026* (scheduled)

PROFESSIONAL SERVICES

Journal referee
- Finance Research Letters; China Accounting and Finance Review
Conference reviewer
- SFA 2024; MFA 2024
Book reviewer
- [Bitcoin: A Game-Theoretic Analysis](#) by Micah Warren
Conference discussant
- EFA 2025; SWFA 2025
- SFA 2024; FMA 2024; SWFA 2024; Australasian Finance & Banking Conference 2024
- Financial Markets and Corporate Governance Conference 2023

INDUSTRY EXPERIENCE

WorldQuant Vietnam LLC – Part-time Websim Research Consultant (04/2019 – 10/2019)
Nielsen Vietnam – Quantitative Research Trainee (06/2018 – 01/2019)
Deloitte Vietnam – Audit Intern (12/2017 – 03/2018)

ACHIEVEMENTS

- Graduate Fellow at the *American Institute of Economic Research*
- Haslam PhD Excellence Scholarship, *University of Tennessee*
- CBER-CDFT-DSF Summer School, *Columbia University*
- AIER and Bitcoin Policy Institute Travel Grant
- 2024 SWFA Student Travel Grant
- 2022 CESC Student Travel Grant, *UC Berkeley*
- Turri and Browne Endowed Scholarship, *RIT*
- Saunders College of Business Merit Scholarship, *RIT*
- First place in UEH Alphathon, *WorldQuant*

REFERENCES

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Abstracts of Working Papers

Towards Pseudonymous Undercollateralized Loans (JMP)

This paper proposes a design where defaulting borrowers lose access to undercollateralized loans temporarily. I show that under reasonable parameters, always-honest, i.e., paying back the loan, is the dominant strategy. The design works because borrowers are incentivized to keep their access to undercollateralized loans to avoid costly overcollateralized loans and the option to default. My design thus enables trust-minimized undercollateralized lending, increasing access and liquidity of DeFi protocols. The result is robust to practical considerations such as non-zero delinquency rate, autocorrelated returns, volatility clustering, moral hazard, and impatient borrowers. Importantly, even if borrowers are myopic and the mechanism fails, the structure enables a novel, trust-minimized option market.

How Do Shareholder Defaults Influence Corporate Governance in DeFi lending?

We analyze user voting participation in governance on token-based digital platforms and show how this behavior changes under financial stress. Using novel user-proposal-level data from 10 major DeFi lending platforms, we find that borrowers (financially exposed users with collateralized positions) engage more actively in governance than passive token holders. Voting activity increases significantly before a potential liquidation, when users have the most at stake, as they try to protect their financial health. After liquidation, voting participation declines significantly. These findings suggest that token-based governance helps mitigate platform-user conflicts but tends to become more short-term driven when linked to active platform use.

Block Size, Miners Discretion, and Blockchain Adoption

What is the secret of top cryptocurrencies? Why is Bitcoin number one? Despite the growing literature on blockchain, the dominance of Bitcoin is not well understood. Given that Bitcoin is the slowest blockchain with the most limited programmability, it is puzzling that it can remain at the top position after 15 years. In this paper, I study the trade-offs between choosing a larger block size and keeping the cost of blockchain node low. Following Kydland and Prescott (1977) I argue that the benefits of running a node come from imposing "rules rather than discretion" on miners. A node has certainty over which policy miners will take, while a non-node may have to believe miners' promises, which are subject to change according to miners' updated objective function. Increasing the cost of node discourages more people to run a node themselves and validate all transactions, leading to more policy deviation and less efficiency. From this observation, I show that small-block blockchains, although they offer lower speed and more expensive transactions, can be preferable because the cost of monitoring these blockchains is lower, inducing more node monitoring and thus making the blockchains more secure. This conclusion helps explain why Bitcoin can remain at the top despite all its limitations. Empirical tests support the hypothesis that small-block blockchains gain more trading volume and have higher market capitalization. The result offers several important empirical implications for blockchain developers,

regulators, and users.

On The Limiting Distribution Of Shares In Proof-of-Stake

Proof-of-Stake (PoS) is often promised to decentralize the blockchain security over Proof-of-Work (PoW) by allowing more people to join without specialized mining hardware. However, there is no consensus in the literature on PoS's centralization, with strong arguments from both sides. Furthermore, theoretical models of PoS often assume very strong conditions that are not implemented in practice. I relax these assumptions and derive a more realistic model that takes into account trading activity and fees. My model shows that the limiting distribution can be centralized regardless of the initial distribution, reconciling conclusions in prior studies.