Garros Gong, Ph.D.

Decision Scientist | Quantitative Strategist | Applied Economist

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EDUCATION

University of Waterloo, Waterloo, Canada

Ph.D. in Management Sciences: Applied Operational Research (3.90/4.00), October 2025

- Awards: INFORMS Telecommunications and Network Analytics Conference Presenter (2024)
- Dissertation: Data-Driven Decision-Making Under Uncertainty: An Empirical Study of U.S. Wildfire Management
- Dissertation Committee: Dr. Dimitrov, Dr. Bartolacci, Dr. Moreno-Cruz, Dr. Yang, Dr. Onay, Dr. Beverly

Ivey Business School at Western University, London, Canada

M.Sc. in Management Sciences: Business Analytics Stream (3.70/4.00), May 2018

- Recipient of the Richard Ivey MSc Excellence Award for academic excellence and international leadership
- Deloitte Case Competition 2nd Place Winner, PwC IFRS 9 Capital Advisory Project, Consulting Project for Scotiabank

University of Victoria, Victoria, Canada

B.S. in Financial Mathematics and Economics (8.00/9.00), June 2016

- Graduated with high distinction
- Jamie Cassels Undergraduate Research Awards: "An SIS-type marketing model on random networks"

RESEARCH INTEREST

Decision Analytics, Applied Economics, Financial Analytics, and Sustainability

PUBLICATIONS

Digital Strategies in Wildfire Management: Social Media Analytics and Web 3.0 Integration, February 2024.

Gong, G., Dimitrov, S., & Bartolacci, M. R. (2024). Digital strategies in wildfire management: Social media analytics and Web 3.0 integration. *Discover Sustainability, 5*, 92. https://doi.org/10.1007/s43621-024-00274-7

Integrating social media analytics (SMA) into wildfire management systems offers a data-driven approach to improving prediction, monitoring, and response efficiency. Existing frameworks often lag in capturing real-time shifts in wildfire conditions and public engagement. Incorporating targeted SMA metrics can enhance situational awareness, enabling a more adaptive and timely response. Beyond operational improvements, SMA plays a role in shaping policy decisions, influencing mitigation strategies, and guiding resource allocation. Web 3.0 technologies further expand these capabilities, offering decentralized, real-time data streams that complement traditional monitoring systems. The analysis highlights the potential of these tools to refine disaster management, balancing predictive accuracy with policy effectiveness.

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CONFERENCE PRESENTATIONS

Digital Strategies in Wildfire Management: The Advantage of Applying Social Media Analytics and Web 3.0 Integration, May 2024.

Gong, G. (2024). *Digital Strategies in Wildfire Management: The Advantage of Applying Social Media Analytics and Web 3.0 Integration.* Presented at the 2024 INFORMS Telecommunications and Network Analytics Conference, Dallas, TX, May 15–17, 2024.

Social Media Analytics (SMA) applies data-driven methods to extract insights from social platforms, which is increasingly critical in disaster response. Wireless communication infrastructure enables real-time data flows, positioning SMA as a key tool in public-sector operations. As wildfires grow in frequency and scale, particularly in the U.S., the economic cost of delayed response becomes more salient. Evidence suggests even marginal improvements in response times can yield billions in economic savings. Yet, current wildfire management systems remain constrained by weak predictive capabilities. This research advocates for integrating targeted SMA metrics into existing frameworks, offering a scalable approach to improve forecasting accuracy, accelerate response, and mitigate loss.

WORKING PAPERS

Who Reacts to Dividend Income Changes? Causal Evidence of Heterogeneous Investor Responses and Behavioral Biases, March 2025. **Under Peer Review at Journal of Financial Economics.**

How do dividend tax policies shape investor behavior in real markets? This paper provides new causal evidence that retail investors, compared to institutional investors, respond more sharply to dividend income changes. Exploiting the 2013 U.S. dividend tax policy reform as a quasi-natural experiment, we estimate a significantly greater decline in turnover change rates among retail-dominated firms. We develop a novel causal identification strategy that integrates pre-policy ownership classification, kernel-based propensity score matching, and simulation-based counterfactual analysis to strengthen our causal inference. The results suggest that retail investors' responses cannot be fully accounted for by standard incentive-based factors such as marginal tax rates or arbitrage opportunities. Instead, they can also be explained by behavioral frictions related to income salience, mental accounting, and limited attention. These findings complement the causal interpretation of classical dividend taxation models by incorporating an investor-side perspective. Our study empirically confirms that cognitive biases, such as income salience and mental accounting, provide direct evidence of behavioral heterogeneity in financial decision-making.

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When Do Budgetary Shocks Backfire? Federal-State Funding Gaps in Wildfire Preparedness, January 2025. **Under Peer Review at Production and Operations Management.**

The rapid expansion of U.S. federal wildfire management budgets since 2009 raises critical questions about their sustained effectiveness in improving wildfire management efforts. This paper investigates whether increases in budget allocations for wildfires improve preparedness accuracy across budget cycles in the long term or only in the short term. Using panel regression and time-series analyses on a 2012–2021 dataset integrating wildfire reports and federal-level budget data, we find positive budgetary shocks initially enhance decision accuracy, but their effects diminish and grow volatile over the long-term. The results highlight the existence of information asymmetry between federal and state governments, which can lead to the distortion of risk perceptions and state-level governmental decisions. This work puts forth three key contributions: (1) empirical evidence on the existence and nature of cyclical limitations inherent in wildfire funding mechanisms; (2) support for Post-Keynesian perspectives with respect to fiscal policy effects in wildfire management; and (3) derivation of a multidimensional dataset integrating operational, fiscal dimension of wildfire management. This last contribution provides a resource that enables practitioners and scholars to formulate data-driven strategies to balance short-term needs with sustainable budget development with respect to wildfire management.

Sustainable Wildfire Management Meets Social Media: How Virtual Interaction Affects Wildfire Response Costs, November 2024. **Revise & Resubmit (Major Revision), Production and Operations Management.**

A temporal gravity score model offers a new approach to quantifying social media's influence on wildfire response costs, applying a framework rarely used in disaster management. By integrating government wildfire reports with Twitter (now X) activity, the model captures the spatial and temporal patterns of public attention during California wildfires (2007–2021). Social media volume functions as a proxy for "population" mass within a gravity model traditionally used in transportation economics. Generalized Estimating Equations (GEE) account for spatiotemporal and climate factors, revealing that increased social media visibility correlates with greater resource deployment. While the direct effect on unit response costs remains ambiguous, social media still influences allocation decisions. The findings suggest a need for caution when incorporating social media signals into wildfire response planning. Additionally, key indicators of unit response costs are identified, providing responders with a framework to optimize firefighting expenditures while balancing ecological considerations.

RESEARCH IN PROCESS

Corporate Transfer Pricing and Tax Policy Design: A Bayesian Stackelberg Structural Model for Dynamic Tax Rate Optimization, started January 2025.

Developing a structural Bayesian model to examine government-firm interactions in tax policy and transfer pricing. The project integrates firm-level tax data with a dynamic Stackelberg framework to estimate tax rate elasticities and simulate policy outcomes under global minimum tax scenarios.

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TEACHING EXPERIENCE

Centennial College, **the Business School,** Toronto, Canada, 2022 – 2023

Adjunct Professor

- Led curriculum development for a Financial Analytics course designed for Business Analytics graduate diploma students.
- Delivered synchronous online video-based lectures to students and provided professional consultative services to industrial partners.
- Collaborated bi-annually with industry leaders to drive business program quality and foster innovation.
- Shaped the business program's curriculum and strategic direction, enhancing students' job market readiness.

RESEARCH FELLOW EXPERIENCE

Centre for International Governance Innovation (CIGI), Waterloo, Canada, 2023 – 2024

Affiliated Fellow

- Conducting independent research on global governance of generative AI, with a focus on policy design and regulatory frameworks.
- Engaged in think tank collaborations to advance interdisciplinary research on international economic institutions and digital governance.

PROFESSIONAL EXPERIENCE

CIBC Mellon, Toronto, Canada, 2025 – Present

Director, Profitability and Pricing

Redesigned profitability models to align cost structures with capital allocation and reinforce return-on-equity discipline. Reengineered pricing and revenue analytics to shift capital toward higher-margin client segments. Modernized financial performance reporting by transitioning from lagged quarterly processes to real-time profitability insights. Developed a generative-adversarial model to support treasury hedging and stress-testing for enhanced tail-risk management.

Scotiabank, Toronto, Canada, 2023 – 2025

Manager, Investment Strategist

Designed and tested a two-stage asset allocation model combining market regime classification via machine learning and portfolio optimization under risk constraints. Conducted empirical research on cross-asset strategy design, factor exposure,

and tax-harvesting algorithms, applying advanced econometric methods and non-convex optimization. Produced market commentaries, policy-linked outlooks, and investor briefings to support portfolio decisions and internal research dissemination.

Central 1 Credit Union, Toronto, Canada, 2022 - 2023

Credit and Financial Analyst

Built ESG-integrated portfolio models and liquidity risk analytics. Led the development of EVE models for interest rate risk and stress testing frameworks. Applied statistical modeling to improve credit selection and automated reporting pipelines using Python and SQL.

Marret Asset Management, Toronto, Canada, 2021 - 2022

Associate, Fixed Income Research

Developed quantitative bond screening tools and algorithmic strategies for high-yield securities. Applied Python models to assess credit risk and executed duration-neutral positioning amid market volatility.

Vinzan International Inc., Toronto, Canada, 2018 – 2020

Associate, Fixed Income Research

Provided financial modeling and pricing analysis for strategic planning and capital raising. Delivered valuation insights and supported investor communications through structured forecasting and scenario modeling.

SELECTED MEDIA CONTRIBUTIONS

Increasing Monopoly Power Poses a Threat to Canada's Post-Pandemic Economic Recovery

Yahoo News, 2023

Argues that growing corporate concentration risks stalling Canada’s economic resilience and innovation.

https://ca.news.yahoo.com/increasing-monopoly-power-poses-threat-115705554.html

Canada’s New Tech Talent Strategy Aims to Attract Workers from Around the World

The Conversation, 2023

Analyzes Canada's new immigration policy designed to attract global tech talent and its potential impact on the domestic technology sector.

https://theconversation.com/canadas-new-tech-talent-strategy-aims-to-attract-workers-from-around-the-world-208810

For Gig Economy Millennials, Retirement is Not That Far Off. Innovation Will Be Key to Making It Work

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Toronto Star, 2023

Discusses how millennials in the gig economy face unique retirement challenges and the role of innovative financial strategies in securing their futures.

https://www.thestar.com/business/for-gig-economy-millennials-retirement-is-not-that-far-off-innovation-will-be-key-to/article_71fe4910-c09b-593f-b0ec-3b6437592e5d.html

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REFERENCES AND DISSERTATION COMMITTEE

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