

# MELANIE CAO

## Professor

Finance Area  
Schulich School of Business  
York University  
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### AREA OF INTEREST

Research: Equilibrium Approach to Optimal Incentive Contract, Asset Pricing, Market Liquidity, Derivatives, IPO, Bank Loan, and Asset Valuation with Illiquidity, Cryptocurrencies.

Teaching: Intro Finance, Investments, Derivative Securities, Portfolio Theory and Dynamic Asset Pricing.

### EDUCATION

PhD	1993 - 1997	Finance	University of Toronto
M.B.A.	1990 - 1992	Finance & Accounting	University of Ottawa
M.A.	1986 - 1988	Economics	Huazhong University of Science and Technology (HUST), China
B.Sc.	1980 - 1984	Industrial Engineering	HUST, China

### WORK EXPERIENCE

York University, Schulich School of Business	2015 – present	Professor
	2005 - 2015	Associate Professor
	2000 - 2005	Assistant Professor
University of Toronto, Joseph L. Rotman School of Management	July 2012 - Dec 2012	Visiting Professor
	July 2004 - June 2005	Visiting Professor

Queen's University	1997 - 2000	Assistant Professor, Economics
Chicago Mercantile Exchange	1998 - 1999	Senior Director for Financial Product Development & Senior Financial Economist (on leave from Queen's University)
ADM, Windsor, Canada	1993	Internal Auditor
Roxmark Mines Limited, Toronto	1989 - 1990	Assistant to General Manager
Triquetra Service Limited, Toronto	1989	Data Control Analyst

### PUBLICATIONS IN REFEREED JOURNALS

1. Are Cryptocurrency Prices in Line with Fundamental Assets, 2025, with Andy Hou, *Journal of Risk and Financial Management*, Volume 18, Issue 11, 608.
2. Capital Reallocation and Firm-Level Productivity Under Political Uncertainty, 2024, with Daniel Tut, won the **top paper award** at the 28<sup>th</sup> annual Global Finance Conference, *Quarterly Review of Finance*, Vol. 14, No. 03, 2450010.
3. Endogenously Procyclical Liquidity, Capital Reallocation, and  $q$ , 2023, with Shouyong Shi, *International Economic Review*, Vol. 64, No. 1, 95-128.
4. Valuation of Bitcoin Derivatives, 2021, with Batur Celik, *Journal of Futures Market*, Vol. 41, No. 7, 1007-1026.
5. Liquidity and volatility commonality in the Canadian Stock Market, 2017, with Nathan Gold, Qiming Wang and Huaxiong Huang, *Mathematics-in-Industry Case Studies*, 8, 7.
6. Optimal CEO Compensation with Search: Theory and Empirical Evidence, 2013, with Rong Wang, *Journal of Finance*, Vol. 68, No. 5, 2001-2058.
7. Option Market Liquidity: Commonality and Other Characteristics, 2010, with Jason Wei, *Journal of Financial Market*, Vol. 13, No. 1, 20-48.
8. Valuation of Housing Index Derivatives, 2010, with Jason Wei, *Journal of Futures Markets*, Vol. 30, No. 7, 660-688.
9. Stock or Options? A Theoretical Justification for Using Stocks as a Compensation Tool, 2009, with Jason Wei, *Research in Finance*, Vol. 25, 177-201.
10. Incentive Stocks and Options with Trading Restrictions – not as Restricted as We Thought, 2008, with Jason Wei, *Research in Finance*, Vol. 24, 213-248.

11. Signaling in the Internet Craze of Initial Public Offerings, 2006, with Shouyong Shi, *Journal of Corporate Finance*, Vol. 12, 818-833.
12. Effects of Return Predictability on Option Prices with Stochastic Volatility for the Market Portfolio, 2005, *Research in Financial Economics*, Vol. 1, No. 1, 104-150.
13. Stock Market Returns: a Note on Temperature Anomaly, 2005, with Jason Wei, *Journal of Banking and Finance*, Vol. 29, 1559-1573,
14. An Expanded Study on the Stock Market Temperature Anomaly, 2005, with Jason Wei, *Research in Finance*, Vol. 22, 73-112.
15. Weather Derivatives Valuation and Market Price of Weather Risk, November 2004, with Jason Wei, *Journal of Futures Markets*, Vol. 24, No. 11, 1065-1089.
16. Precipitation Modeling and Contract Valuation: a Frontier in Weather Derivatives, September 2004, with Anlong Li and Jason Wei, *Journal of Alternative Investments*, Vol. 7, Issue 2, 93-99.
17. Watching the Weather Report, 2004, with Anlong Li and Jason Wei, *Canadian Investment Review*, Vol. 17, No. 2, 27-33.
18. Uncover Sector Momentums, 2002, with Jason Wei, *Canadian Investment Review*, Vol 15, No. 4, 14-22.
19. Systematic Jump Risks in a Small Open Economy: Simultaneous Equilibrium Valuation of Options on the Market Portfolio and the Exchange Rate, 2001, *Journal of International Money and Finance*, Vol. 20, No. 2, 191-218.
20. Risky Corporate Bond, Credit Spread and Vulnerable Options, 2001, with Jason Wei, *Journal of Futures Market*, Vol. 21, No. 4, 301-327.
21. Screening, Bidding and the Loan Market Tightness, 2001, with Shouyong Shi, *European Finance Review (currently Review of Finance)*, Vol. 5, 21-61.
22. Coordination, Matching and Wages, 2000, with Shouyong Shi, *Canadian Journal of Economics*, Vol. 33, No. 4, 1009-1033.
23. Pricing Weather Derivatives: an Intuitive and Practical Approach, May 2000, with Jason Wei, *Risk*, 67-70.
24. Whether to Hedge, August 1999, with Fred Arditti, Lan Cai and Dick McDonald, *Risk*, 9-12.

## CHAPTER IN BOOKS

1. Pricing the Weather, with Jason Wei, in: *Exotic Option, the Cutting-edge Collection, 2003*, edited by Alexander Lipton, Risk Books, 263-269.

## PUBLICATIONS IN REFEREED PROCEEDINGS

1. General Equilibrium and Valuation of Options with Stochastic Volatility, *Proceedings of Administrative Sciences Association of Canada (ASAC, 1996)*, 21-30, awarded the Best Paper on Derivative Securities in the Finance Division at the Association's Conference.

## WORKING PAPERS

1. How News Reports on Economy-wide Risks and Uncertainties Affect Stock Market Liquidity and Returns, with Michelle Alexopoulos, 2014.
2. Pension Investments in Firm's Own Stock: Impacts of Bankruptcy Risk and Holding Restrictions, with Jason Wei, 2004.

## CONFERENCE PRESENTATIONS

1. Capital Reallocation and Firm-Level Productivity Under Political Uncertainty, Daniel Tut, 2021, 2023 Huazhong University of Science and Technology Economics Forum, 2023 Vietnam Symposium in Banking and Finance, presentation at Fudan University Oct. 2023.
2. Endogenously Procyclical Liquidity, Capital Reallocation, and  $q$ , the Canon Institute conference on recent advance in macroeconomics (Tokyo, 2016), the St. Louis Fed and Tsinghua University conference (Beijing, 2016), Federal Reserve Board of Governors (2015), the Canadian Macro Study Group meeting (Montreal, 2015), Cornell-PSU macro conference (2015), Federal Reserve Bank of St. Louis conference on money and banking (2014), the Society for Economic Dynamics meeting (Warsaw, 2014), and Shanghai Macro Workshop (SUFU, 2014).
3. Why Don't Firms Reward their CEOs with Relative Compensation, 2015 Global Finance Association meeting.
4. Estimating Long-term Risk using Short-term Data, the *Fields-Mprime Industrial Problem Solving Workshop* in August 2014.\*\*\*
5. Search for the Optimal CEO Compensation: Theory and Empirical Evidence, with Rong Wang, 2006 *Southern Ontario Finance Symposium*, 2007 *Northern Finance Association* meeting, 2008 *Financial Intermediate Research Service* meeting, 2008 *North American Econometric Society* Summer meeting, 2008 *China International Conference in Finance*, 2008 *Financial Management Association meeting in Finance*, the 3<sup>rd</sup> *international conference on Asia-Pacific Financial Markets*,\*\*\* the 18<sup>th</sup> *European Financial Management Association (EFMA)* conference in 2009,\*\*\* the 16<sup>th</sup> *Annual Meeting of the Multinational Finance Society* in 2009, and the 11<sup>th</sup> *Society for Advancement of Economic Theory* in 2011.
6. How News Reports on Economy-wide Risks and Uncertainties Affect Stock Market Liquidity and Returns, with Michelle Alexopoulos, 2010 annual meeting of the *Northern Finance Association*, 2011 annual meeting of the *China International Conference in Finance*.
7. Valuation of Housing Index Derivatives, 2009 *China International Conference in Finance* annual meeting, 2009 *Northern Finance Association* annual meeting.

8. Commonality in Liquidity: Evidence from the Option Market, with Jason Wei, 2007 *Northern Finance Association* meeting, 2008 *Midwest Finance Association* meeting, 2008 *Financial Management Association* meeting.
9. Stocks or Options?: A Theoretical Justification for Using Stock as a Compensation Tool, with Jason Wei, 2005 *Northern Finance Association* meeting, 2006 *Financial Management Association* meeting.
10. Pension Investments in Firm's Own Stock: Impacts of Bankruptcy Risk and Holding Restrictions, with Jason Wei, 2004 *Northern Finance Association* meeting.
11. Incentive Stocks and Options with Trading Restrictions - Not as Restricted as We Thought, with Jason Wei, 2003 *Northern Finance Association* meeting, 2004 *Waterloo Risk and Insurance conference*, 2004 *Financial Management Association* meeting.
12. Stock Market Returns: A Temperature Anomaly, with Jason Wei, 2002 *Northern Finance Association* meeting, 2002 *Financial Management Association* meeting, 2003 *Western Finance Association* meeting,
13. Equilibrium Valuation of Weather Derivatives, with Jason Wei, the *weather conference* organized by the *University of Waterloo*, 2000 *FMA/PACAP* meeting, 2000 *European Finance Association* meeting, 2000 *Northern Finance Association* meeting, 2000 *Financial Management Association* meeting, 2001 *Society for Economic Dynamics* meeting, and the *Alternative Investment Conference* sponsored by the *Canadian Investment Review* (2001).
14. Publicity and the Clustering of IPO Underpricing, with Shouyong Shi, 2000 *Western Finance Association* meeting, 2000 *FMA/PACAP* 2000, the *ABN-AMRO International Conference* on Initial Public Offerings, 2000<sup>\*\*\*</sup>, 2000 *Northern Finance Association* meeting, 2006 *International Finance Conference in China*, 2006 *Far-East Econometric Society* meeting.
15. Risky Corporate Bond, Credit Spread and Vulnerable Options, with Jason Wei, 1999 *Northern Finance Association* meeting, 1999 *FMA/PACAP* meeting.
16. Screening, Bidding and the Loan Market Tightness, with Shouyong Shi, 1999 *Northern Finance Association* meeting, the *Center for Financial Studies* conference, 1999, 1999 *Canadian Macro Study Group* meeting.<sup>\*\*\*</sup>
17. Equilibrium Valuation of Currency Options in a Small Open Economy, 1996 *Northern Finance Association* meeting, 1997 *Society of Economic Dynamics* meeting, 1997 *Far East meeting of Econometric Society* meeting, 1997 *Southern Finance Association* meeting.
18. Equilibrium Valuation of Options on the Market Portfolio with Stochastic Volatility and Return Predictability, 1997 *Northern Finance Association* meeting, 1998 *Society of Economic Dynamics* meeting.
19. General Equilibrium and Valuation of Options with Stochastic Volatility, 1996 *Administrative Sciences Association of Canada* meeting.

Note: <sup>\*\*\*</sup> indicates presentation by co-authors.

## INVITED PRESENTATIONS

1. Valuation of Bitcoin Derivatives, presented at York University, Huazhong University of Science and Technology.
2. Endogenously Procyclical Liquidity, Capital Reallocation, and  $q$ , presented at University of Chile, University College London, Michigan State University and Vanderbilt University.
3. Search for the Optimal CEO Compensation: Theory and Empirical Evidence, with Rong Wang, presented at *Carnegie Mellon University, Fudan University, Shanghai University of Finance and Economics, Queen's University*, and the *University of Toronto*.
4. Incentive Stocks and Options with Trading Restrictions - Not as Restricted as We Thought, with Jason Wei, presented at *McMaster University, the University of Toronto* and *York University*.
5. Equilibrium Valuation of Weather Derivatives, with Jason Wei, presented at *Indiana University, Michigan State University, Ontario Power Generation, Bank of Canada, Queen's University, York University*, and the *Fields Institute*.
6. Publicity and the Clustering of IPO Underpricing, with Shouyong Shi, presented at the *University of Amsterdam, Queen's University, University of Toronto* and *York University*.
7. Risky Corporate Bond, Credit Spread and Vulnerable Options, with Jason Wei, presented at *Queen's University*.
8. Screening, Bidding and the Loan Market Tightness, with Shouyong Shi, presented at *Queen's University*, and the *Bank of Canada*.
9. Equilibrium Valuation of Currency Options in a Small Open Economy, presented at the *Chicago Mercantile Exchange, DePaul University, Pace University, Queen's University, the University of Huston, the University of Iowa*, and the *University of Vanderbilt*.

## REFEREEING AND OTHER PROFESSIONAL SERVICES

### Referee

*Advances in Futures and Options Research*  
*Australian Journal of Agricultural and Resource Economics*  
*Canadian Journal of Administrative Sciences*  
*Canadian Journal of Economics*  
*Econometrica*  
*Energy Economics*  
*Financial Management*  
*International Journal of Theoretical and Applied Finance*  
*Journal of Banking and Finance*  
*Journal of Business and Economic Statistics*  
*Journal of Economic Dynamics and Control*  
*Journal of Emerging Financial Market*

*Journal of Empirical Finance*  
*Journal of Finance*  
*Journal of Financial Engineering*  
*Journal of Futures Markets*  
*Journal of International Economics*  
*Journal of Multinational Financial Management*  
*Management Science*  
*Quantitative Finance*  
*Quarterly Journal of Business and Economics*  
*Review of Finance*  
*Review of Financial Studies*  
*Risk*  
*Research Grants Council of Hong Kong* (granting agency)  
*Social Science and Humanities Research Council of Canada* (granting agency)

### **Editorial Board**

2012 - present: Associate Editor, *Journal of Financial Risk Management*  
2013 - present: Editorial Board, *Canadian Journal of Administrative Science*  
2014 - present: Editorial Board, *Journal of Risk and Control*

### **External Examiner: PhD thesis defense**

Chris Prashad (2024, York University)  
Nanying Lin (2022, University of Manitoba)  
Tianze Li (2017, University of Manitoba)  
Shervan Vafa (2015, York University)  
Yegor Gorokin (2014, York University)  
Jinlian Wang (2013, York University)  
Chuntai Jin (2013, University of Manitoba)  
Yan Wang (2010, University of Manitoba)  
Yun Li (2009, University of Toronto)  
Mei Li (2007, Queen's University)  
Annie Theriault (2007, University of Toronto)  
Wei Wang (2006, Queen's University)  
Joseph Fung (2001, Queen's University)

### **Conference Organizer**

2010 Canadian Risk Management Conference

### **Conference Committees**

*Financial Management Association Asian Conference Committee*: 2009.  
*Northern Financial Association Conference Committee*: 2007, 2009, 2010, 2011, 2012 - present.

### **Executive Roles**

Chair, SSHRC Selection Committee, 2012 - present.

## **MEDIA EXPOSURE**

1. **Bottom Line** (July 15, 2006), on the relationship between weather and stock market returns.
2. **The Time** (June 30, 2005), on the relationship between weather and stock market returns.
3. **The Daily Telegraph** (February 26, 2005), citing the joint research on the relationship between weather and stock market returns.
4. **Vancouver Sun** (February 26, 2004), commenting on the relationship between weather and stock market returns.
5. **Global TV** (October 24, 2003), interviewed by the program *Moneywise* regarding the joint work on the relationship between weather and the stock market returns.

## **ACADEMIC AWARDS**

2021	The top paper award at the 28 <sup>th</sup> annual Global Finance Conference
2008	Outstanding Paper Award at the 3 <sup>rd</sup> International Conference on Asia-Pacific Financial Markets
2009 - 2010 2006 - 2007 2005 - 2006	Merit Award for excellence in teaching, research and service, Schulich School of Business, York University
2005 - 2006	Nominated for Teaching Award at Schulich School of Business, York University.
1996	Best Paper on Derivative Securities in the Finance Division at the <i>Administrative Sciences Association of Canada's</i> Conference

## **RESEARCH GRANTS**

07/25 – 06/2026	Canada-China Scholar Exchange Program
07/2025 – 06/2026	Sabbatical Fellowship, York University (\$15,000)
04/2014 - 04/2017	The Mitacs of Canada (\$240,000, co-investigator)  Title of the Project: Credit ratings for small and medium enterprises Co-investigators: Professors Huaxiong Huang (York University) and Sebastian Jaimungel (University of Toronto)
10/2013-01/2017	The Mitacs of Canada (\$80,000, Investigator)  Title of the Project: Commercial Mortgage Backed Securities

01/2013-01/2017	The Mitacs of Canada (\$60,00, Investigator)  Title of the Project: Apps for Financial Services
2006 - 2009	The Social Sciences and Humanities Research Council of Canada (\$69,000, co-investigator)  Title of the Project: Impact of Holding Restrictions on the private valuation of company stocks and options Co-investigator: Professors Jason Wei (University of Toronto)
2005 - 2008	The Social Sciences and Humanities Research Council of Canada (\$43,000, Investigator)  Title of the Project: Search for the optimal executive compensation contract: theoretical and empirical investigations
2000 - 2003	The Social Sciences and Humanities Research Council of Canada (\$29,000, Investigator)  Title of the Project: Firm's Financing Decisions and Weather Risk Management
2000 - 2002	York University Schulich School of Business Research Grant
1998 - 2000	The Social Sciences and Humanities Research Council of Canada (Internal Seed Grant \$5,000 Each Year)
1997 - 2000	The Edith Grant for Research at Queen's University
1997	Queen's University Research Initiation Grant

## **STUDENT SUPERVISION**

### **PhD Committee**

1. Mike Denmore (Schulich School of Business, York University)  
Date of Completion: May 2021  
Title: Essays on Credit Risk
2. Helen Cheyne (Department of Mathematics, York University)  
Date of Completion: in progress  
Title: Essays on Credit Rating for Small and Median Enterprises
3. Daniel Tutt (Schulich School of Business, York University)  
Date of Completion: July, 2020

Title: Essays on Corporate Finance

4. Pavan Aroda (Department of Mathematics, York University)  
Date of Completion: November 2016  
Title: Essays on Operational Risks
5. Ling-wu Shao (Schulich School of Business, York University)  
Date of Completion: September 2011  
Title: Essays on the value of annuities to individual investors
6. Yi Feng (Schulich School of Business, York University)  
Date of Completion: September 2008  
Title: Executive Compensation
7. Li Hao (Schulich School of Business, York University)  
Date of Completion: July 26, 2005  
Title: Bank Governance Functions and Subordinated Structure
8. Kamphol Panyagometh (Schulich School of Business, York University)  
Date of Completion: September 2002  
Title: Three Essays on Bank Failure Resolution Policies, Subordinated Debt and Loan Syndicates
9. Ryan Davies (Department of Economics, Queen's University)  
Date of Completion: July 2001  
Title: Three Essays on Market Micro Structure

### **Independent Study Supervised**

1. Cary Lam (MBA, Schulich School of Business)  
Date of Completion: in progress  
Title: The Role of Fintech in Canadian Financial Services
2. Rabia Yusufzai (MBA, Schulich School of Business)  
Date of Completion: December 2014 (expected)  
Title: What Factors Drive Oil Prices?
3. David Cezar (MBA, Schulich School of Business)  
Date of Completion: June 2007  
Title: Investment in Gold and Mining Industry
4. Andrew Hallak (MBA, Schulich School of Business)  
Date of Completion: June 2001  
Title: Weather Derivatives: a New Market

### **TEACHING EXPERIENCE**

York University	2019 Spring	EMBA: Financial Management
	2020 Fall	

	2000 - present	B.B.A.: Introduction to Finance Derivative Securities M.B.A.: Introduction to Finance, Investments, Derivative Securities M.B.A./Financial Engineering: Advanced Derivative Securities M.F.: Derivative Securities PhD: Financial Economics, Theory of Finance
Queen's University	1996 - 2001	B. Com & M.B.A.: Derivative Securities B.A.: Investments M.A./PhD: Money & Financial Markets Quantitative Method in Finance
University of Toronto	1995 - 1996	B. Com.: Business Finance
People's University, China	1995 summer	Interpreter & Instructor for International Taxation
HUST, China	1994 summer	Interpreter & Instructor for Management Accounting

## UNIVERSITY SERVICES

2020 - Present	Director, Master of Finance Program, Schulich School of Business, York University. Director, Financial Engineering Program, Schulich School of Business, York University. Executive Committee, Schulich School of Business, York University.
2021 – 2022	Finance Search Committee, Schulich School of Business, York University
2021 - 2021	Dean's Search Committee, Schulich School of Business, York University.
2020 - 2021	Student Affair Committee, Schulich School of Business, York University.
2019 - 2020	Affirmative Action Representative for Operation Management and Information System (OMIS) search committee, Schulich School of Business, York University.
2017 - present	Trustee, York University Pension Board.
2014 - present	University Tribunal.
2013 - 2014	Chair of File Preparation Committee for Professor Pauline Shum's Full Promotion, Schulich School of Business, York University.
2012 – 2015	Master of Finance Committee, Schulich School of Business, York University.
2011 - 2015	Director, Financial Engineering Program, Schulich School of Business, York University.
2010 - 2011	Affirmative Action Representative for Organization Behavior search committee, Schulich

School of Business, York University.

- 2010 - 2012 YUFA T&P sub-committee, York University.
- 2009 - 2012 Finance professional seminar co-organizer, Schulich School of Business, York University.
- 2008 - 2011 Student Affair Committee, Schulich School of Business, York University.
- 2008 - 2010 Finance research seminar co-organizer, Schulich School of Business, York University.
- 2006 - 2008 Finance Phd Coordinator, Schulich School of Business, York University.
- 2006 - 2007 BBA/iBBA Committee, T&P Committee, Schulich School of Business, York University.
- 2005 - 2006 Graduate Admission Committee, Schulich School of Business, York University.
- 2002 - 2003 Affirmative Action Representative, Schulich School of Business, York University.
- 2000 - 2002 Tenure and Promotion Committee, Schulich School of Business, York University.