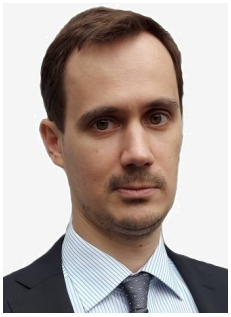
Andrey Pankratov

Personal website: AndreyPankratov.com
Read my papers: AndreyPankratov.com/research/
Institutional webpage: https://www.fsa.ulaval.ca/en/expert/andrey-pankratov/
Institutional email: andrey.pankratov@fsa.ulaval.ca
Field of study: Finance
Subfields: Market microstructure, Incomplete information, Fixed income, Corporate finance



Education

- **USI Lugano (Università della Svizzera italiana) & Swiss Finance Institute** — Lugano, Switzerland
  PhD in Finance — *September 2015 - June 2021*
  During the 1st year I was 100% focused on attending courses and received scolarship from The Swiss Finance Institute, thereafter, I have been employed as a doctoral assistant.
  Doctoral Advisor: Antonio Mele (Università della Svizzera italiana)
  Website: https://www.antoniomele.org/
- **HEC Paris** — Jouy-en-Josas, France
  Visiting PhD student in finance — *February 2020 - March 2020*
- **Gerzensee study center** — Gerzensee, Switzerland
  Financial Frictions and Incomplete Markets by Y. Sannikov — *One week in August 2018*
- **Gerzensee study center** — Gerzensee, Switzerland
  Indeterminacy and Sunspots in Macroeconomics by R. Farmer — *One week in September 2017*
- **Gerzensee study center** — Gerzensee, Switzerland
  Doctoral macroeconomics program (four weeks of courses) — *December 2017 - July 2018*
- **CFA program** — Moscow, Russia
  Passed first two levels — *December 2013 - June 2014*
- **Lomonosov Moscow State University, Mathematics** — Moscow, Russia
  Diploma degree ≈ bachelor's degree + master's degree — *September 2003 - June 2008*
  Master thesis: On classification of finite semirings
  GPA: 4.5 out of 5

Research papers

Published preprints and conference proceedings publications

- **Who Benefits from Insider Information? Insider Traders "Under the Gun"**:
  - Updated SSRN preprint, December 2024
  - Swiss Finance Institute Research Paper No. 20-76
  - FMA Annual Meeting 2025, Vancouver American Finance Association, Annual Meeting 2020, San Diego, Poster session programme with links to papers Link to my paper
- **Securities lending and information transmission: a model of endogenous short-sale constraints**:
  - Swiss Finance Institute Research Paper No. 20-69
  - French Finance Association 2023 Annual meeting conference programme with links to papers Link to my paper
- **Informed trading, short-sale constraints, and leverage effect in equity returns**:
  - SSRN preprint, March 2025
- **Unawareness in safety-first portfolio optimization**:
  - SSRN preprint, October 2025

Selected working papers with abstracts

- **Who Benefits from Insider Information? Insider Traders "Under the Gun"**:

  It is widely acknowledged that insiders profit from their access to privileged information. However, recent empirical findings suggest that the dollar profits of insiders may be relatively modest. This naturally raises an important question: Are insiders truly the primary beneficiaries of their insider information? I propose a model à la Kyle, where insiders trade through brokers that then relay the information about the insiders' trades to their other clients, who in turn play the role of followers. I show theoretically that insiders can relinquish the dominant fraction of their profits to followers merely because of a timing disadvantage: they are in a vulnerable position because they act first.

- **Securities lending and information transmission: a model of endogenous short-sale constraints**:

  I study short-sale constraints in a market with asymmetric information. I offer a novel approach endogenizing short-sale constraints by including an asset-borrowing market in my model. Short-sellers have to borrow an asset and therefore reveal information to a lender. The lender trades on her own account in addition to charging fees, which motivates the short-seller to hide the information and hinders short sales. I contribute to the literature by modeling the mechanism behind short-selling in the absence of explicit short-selling restrictions that are currently less relevant in practice. The model has new implications for profit distribution, market efficiency, and volatility.

- **Informed trading, short-sale constraints, and leverage effect in equity returns**:

  I model informed trading subject to short-sale constraints and find that short-sale constraints can cause the asymmetric volatility effect (also known as the "leverage effect"). I offer an infinite-horizon model with overlapping generations of private information and stationary time series of returns. This model builds up on the framework of Kyle (1985) model augmented with a short-sale constraint. I consider a collection of settings and find that the magnitude of the leverage effect is driven by the assumptions of the probability distribution of the asset's fundamental value. Additionally I find that fat-tailed fundamental values can generate a persistent volatility effect irrespective of the short-sale constraints.

- **Unawareness in safety-first portfolio optimization (Joint with N'dah Kolani, Matteo Madotto, and Federico Severino)**:

  Loss protection is an important aspect for market investors. However, this objective is severely challenged when the investor lacks complete knowledge of tail events that affect portfolio returns. Moreover, such a partial awareness of portfolio returns may be exploited by a financial advisor who is aware of all market scenarios. In this paper, we assess the impact of the investor's partial awareness on the optimization of safety-first portfolios. We show that, in the optimum, an investor moderately averse to unawareness opts for cautious portfolio strategies, obtaining lower returns than a portfolio manager can achieve. This leaves room for the manager to impose substantial commissions, contrary to what happens when the investor is an unawareness lover. A moderate aversion to unawareness also eliminates the dependence of the safety-first portfolio on the threshold return and the risk tolerance initially set by the investor. Finally, high values of unawareness aversion induce extreme overprotection in portfolio selection.

Work in progress

- **When interest rate shock defies expectations: A precise methodology of stress testing for bond portfolios (Joint with Alexandra Matyunina and Federico Severino)**:

  Large interest rate changes pose solvency and liquidity risk to financial institutions, as illustrated by the recent failure of the Silicon Valley Bank linked to losses on long-term Treasuries. Conventional stress-testing methodologies for bonds typically rely on linear or quadratic bond price approximations, the accuracy of which deteriorates markedly under large rate movements. This paper introduces a simple yet accurate approach to the bond price approximation. In order to approximate a bond value under stress conditions, we construct a fictitious two-cash-flow bond that matches the duration and convexity of the original bond. This method is easy to apply and yields precise bond price prediction under extreme scenarios. Beyond that, our approach delivers two benefits: (i) it generates tight upper and lower bounds for the bond price, and (ii) it enhances the estimation of portfolio losses under changes in the yield curve shape. We are working of an extention for bond portfolios.

- **Dissimulation of informed trades on OTC fixed income markets**:

  I propose a model à la Easley and O'Hara (1987). In my model, the traders have a larger decision space than in the Easley and O'Hara model. The traders chose their order size in a continuum of values. If the asset fundamental value is binary, my model yields a unique partially-separating mixed strategy equilibrium. In equilibrium, the price is a non-linear function of the order size, and moreover, a non-smooth function. The orders whose size does not exceed a given threshold have no effect on the price. At the threshold, the price graph (as a function of the order size) has kinks. There is a kink on each side: purchases and sales. For the orders whose size exceeds the threshold, the bid-ask spread expands as a function of the order size.

- **The Chicken and the Egg of WACC**:

  The trade-off capital structure theory contends that firms choose their financial leverage so as to balance between exploiting the interest tax shield and avoiding the escalation of expected bankruptcy costs and agency conflicts. In practice, buy-side analysts are in a setting with incomplete information. Managers know about the firm's capital structure target more than the outsides. Moreover, the insiders are likely to have incentives to mislead the market regarding the capital structure target to manipulate the stock price.

  To apply the discounted cash flow technique, an analyst needs the weighted average cost of capital (WACC). Two common recipes are known: (1) rely on the firm's public announcements about targeted capital structure, (2) find the

capital structure from the firm value. The first recipe is straightforward but it suffers from lack of credibility of the public announcements. The second method is more economically sound but it requires solving an evil loop: the firm value depends on the WACC, which depends on the financial leverage, which in turn depends on the value of the firm. Existing literature proposes an iterative method to solve this circular problem. Usually, this methodology works but the convergence is not guaranteed. I scrutinize the circular problem and identify the conditions for existence and uniqueness of solutions. In addition, I propose an alternative concise method to solve the circular problem featuring much faster and more certain convergence. In practice, this means that financial analysts will be equipped with a simple yet powerful tool to find mutually consistent capital structure and the value of equity in two to three iterations.

Grants and awards

- Start-up research support grant from Faculty of Business Administration, Université Laval: Informed trading, market frictions and information efficiency of financial markets, from January 2023 to December 2026, 30 000 CAD
- 2020 SFI research days best discussant award, 500 CHF
- 2019 AFA Travel grant, approx, 1 500 USD
- 2015 SFI PhD grant for the first year of the doctoral program in finance, 30 000 CHF
- 2003 Prizes from Intel and Moscow ministry of education for the development of software for modeling sound propagation indoors. This educational project was a part of my program in high school (Information Technologies Lyceum #1533). The project was implemented in C++.

Technical skills

R (advanced), C/C++, SQL, Visual Basic, Stata, LaTeX(advanced), Python, Bloomberg terminal, Reuters Eikon

Languages

- **English**: fluent (C2)
- **French**: advanced (C1)
- **Italian**: upper-intermediate (B1-B2)
- **Spanish**: lower-intermediate (A2-B1)
- **Russian**: native
- **Ukrainian**: basic
- **Polish**: basic

Professional experience

- **Université Laval, Faculty of Business Administration**
  Assistant Professor, Department of Finance, Insurance, and Real Estate *January 2022 - Present*
  - **Responsibilities**:
    * Academic research,
    * Mentoring students,
    * Organizing department research seminars,
    * Participating in the job market committee,
    * Participate in decision-making committees (Department assemblies and a committee for Master's in financial engineering),
    * Teaching:
      - "Corporate Finance" (bachelor and master levels),
      - "Finance corporative" (master levels),
      - "Marchés financiers et information incomplète" (PhD Level),
- **Università della Svizzera italiana a.k.a. University of Lugano**
  Postdoctoral Assistant at the Faculty of Economics, Institute of Finance *July 2021 - August 2021*
  - **Responsibilities**:
    * Contribute to the Prof. Mele's academic activity.
    * Conduct my own research.
- **Università della Svizzera italiana a.k.a. University of Lugano**
  Doctoral Assistant at the Faculty of Economics, Institute of Finance *September 2016 - June 2021*
  - **Responsibilities**:
    * Participate in teaching two courses for master's students (Financial engineering, Fixed rate markets). I prepare materials and give lectures from time to time. In addition, I invigilate the exams.

    - Contribute to the Prof. Mele's research.
    - Conduct my own research and write my thesis.
  - **Topics covered in my teching sessions**:
    - Duration-convexity analysis
    - Interest rate models (e.g. Vasicek model, Ho and Lee)
    - Give exercise sessions
    - Principal components of the yield curve
    - Pricing of fixed income derivatives and bonds in no-arbitrage binomial trees
    - Merton model and rating transition approach for pricing of defaultable bonds
    - Mathematical finance (Brownian motion, Ito's lemma, change of measure, etc.)
    - Black-Scholes model
    - Stochastic volatility model approach for the pricing of stock options
    - History and theory of crashes

- **OJSC Sberbank**
  Risk assessment statistical model validator *February 2014 - July 2015*
  - **Main focus**: credit risk models for loan portfolio: probability of default (PD) and loss given default (LGD)
  - **Responsibilities**:
    - Qualitative (including assessment of reasonableness of underlying assumptions) and quantitative assessment of statistical models
    - Composition of validation reports
    - Improvement of models that do not qualify either internal or regulatory requirements

- **OJSC VTB BANK**
  Risk-management analyst (Asset/Liability Management) *November 2013 - February 2014*
  - **Responsibilities**:
    - Cash flow forecasting and liquidity assessment
    - Monitoring of compliance with requirements on the size of unpledged treasury portfolio
    - Development of a model for liquidity risk valuation for demand accounts portfolio

- **OJSC Allianz Investments - asset management**
  Risk-management analyst *October 2012 - November 2013*
  - **Responsibilities**:
    - Liquidity risk, credit risk and market risk limits control as well as control of other key characteristics
    - Stress-testing portfolios under management
    - Coding VBA macros and SQL queries in the internal accounting system
    - Controlling operational risks
    - Return versus risk analysis of bond mutual funds including comparison Allianz' funds to competitors' funds
    - Market risk analysis (calculation of VaR as for equity portfolios)
    - Interest rate risk analysis aiming at providing capital appreciation strategy (VaR calculation based on market rate volatility forecast with respect to time horizon and bond cash flow profile, i.e. coupon and redemption schedule)
    - Liquidity risk analysis (monthly monitoring of Russian stock and bond market using Bloomberg, Reuters and CBonds.info, taking part in development of liquidity forecasting model)
    - Market risk analysis (monthly monitoring Russian stock market)
    - Taking part in credit analysis (IFRS/US GAAP, Z-spreads of bonds issued by the entity, CDS quotes)

- **CJSC Insurance Comapany TRANSNEFT**
  Underwriter: insurance of physical assets and business interruption *September 2010 - October 2012*
  - **Responsibilities**:
    - Risk assessment, setting insurance conditions and rate, setting reinsurance conditions
    - Drawing up non-standard insurance contracts
    - Participation in development and improvement of insurance products

- **OJSC Insurance company "ROSNO" (Subsidiary of Allianz)**
  Underwriter: insurance of physical assets and business interruption *July 2008 - August 2010*
  - **Responsibilities**:
    - Risk assessment, setting insurance conditions and rate, setting reinsurance conditions
    - Teaching other underwriters to deal with machinery reinsurance treaty
    - Monitoring an approving other underwriters' decisions

- Drawing up non-standard insurance contracts
- Participation in development and improvement of insurance products
- Translation and analysis of regulations, manuals, and instructions of Allianz (parent company), and transmission of this standards to the subsidiary company adjusting them for the local jurisdiction
- Translation of insurance contracts

Presentations and posters

- 20th End-Of-Year Conference of Swiss Economists Abroad, December 2025, Bern
- FMA Annual Meeting, October 2025, Vancouver [poster session]
- AFS 2025 Conference, July 2025, Valencia
- 32nd FINANCE FORUM of Spanish Finance Association, July 2025, Pamplona (Iruña)
- 9th International Workshop on Financial Markets and Nonlinear Dynamics, June 2025, Paris
- The 60th Annual Meetings of the Canadian Economics Association, May 2025, Montreal
- Research seminar at the CUNEF University campus, April 2025, Madrid
- Brown bag seminar, FSA, ULaval, February 2025, Quebec
- New Developments and Issues in Contemporary Financial Markets and Banking, January 2025, Nottingham (online)
- French finance association annual meeting (AFFi), June 2023, Bordeaux
- 2023 Financial Markets and Corporate Governance Conference, April, Melbourne (online via zoom)
- 45th Annual meeting of the Association for Mathematics Applied to Social and Economic Sciences (Special Stream: Stochastic Methods In Finance And Insurance), September 2021, Italy (online via zoom because of Covid-19)
- Seminar, Université Laval, January 2021, Québec (online via zoom because of Covid-19)
- Seminar, CUNEF University, January 2021, Madrid (online via zoom because of Covid-19)
- Seminar, University of Vienna, January 2021 (online via zoom because of Covid-19)
- 28th FINANCE FORUM of Spanish Finance Association, PhD Mentoring Day, 2020 (online via zoom because of Covid-19)
- SFI Research days, 2020 (online via zoom because of Covid-19)
- Brown bag seminar at HEC Paris, 2020 (online via zoom because of Covid-19)
- American Finance Association, Annual Meeting 2020, San Diego [poster session]
- Workshop on the Systemic Impact of Digitalization on Finance at the University of Zürich, 2019
- Alumni Conference 2019, Gerzensee
- PhD Workshop at HEC Paris 2019
- Summer School of Market Microstructure 2019, Lugano
- French finance association annual meeting (AFFi), 2019, Québec, Université Laval
- SFI Research Days 2019, Gerzensee
- Quantitative Finance Workshop 2019, Zürich [poster session]
- Alumni Conference 2018, Gerzensee
- PhD reading group in Lugano 2018
- SFI Research Days 2018, Gerzensee
- French finance association annual meeting (AFFi) 2018, Paris
- Summer School of Market Microstructure 2017, Lugano
- SFI Research Days 2017, Gerzensee
- PhD research seminar in Lugano 2016