Sauder School of Business
University of British Columbia

Alberto Mokak Teguia

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Employment

2018– **Assistant Professor of Finance**, Sauder School of Business – University of British Columbia.

2016 – 2018 **Postdoctoral Researcher**, École Polytechnique Fédérale de Lausanne - Swiss Finance Institute.
Adviser: Semyon Malamud

Education

2011 – 2016 **Ph.D. Finance**, Rice University.
Adviser: Kerry Back

Dissertation Title: *Essays on Information Asymmetry, Strategic Trading, Liquidity, and Heterogeneity*

Spring 2016 **Visiting Student**, Swiss Finance Institute @EPFL.
Host: Semyon Malamud

2005 – 2011 **Ph.D. Mathematics**, Duke University.

Dissertation Title: *Stochastic Gravitational lensing*

Adviser: Dr. Arlie Petters

2004 – 2005 **M.Sc., Mathematics**, East Tennessee State University.

Dissertation Title: *Extensions of the Cayley-Hamilton Theorem with Applications to Elliptic Operators and Frames*

Adviser: Dr. Jeff Knisley

2000 – 2003 **B.S. Mathematics**, University of Buea.

Research Interests

Behavioral Finance, Institutional Investors, Liquidity, Heterogeneous Beliefs, Disclosure, OTC Markets

Research

Publications

1 **Estimating Asset Pricing Models with Frictions**, *(2017)*, *Economics Letters*, with Kevin Crotty.

2 **Signaling in Over-the-Counter Markets: Benefits and Costs of Transparency**, *(Forthcoming)*, *Journal of Financial and Quantitative Analysis*, with Kerry Back and Ruomeng Liu.

Presentations: Western Finance Association (2017); Brown-bag, Department of Economics, Rice Univ. (2016)

3 **Increasing Risk Aversion, Habits, and Life-Cycle Investing**, *(Forthcoming)*, *Mathematics and Financial Economics*, with Kerry Back and Ruomeng Liu.

Working Papers

4 **Law of Small Numbers and Hysteresis in Asset Prices and Portfolio Choices**, *(2017)*.

Presentations: Miami Behavioral Finance Conference (2016, *Ph.D. Session*); Whitebox Advisors Graduate Student Conference at Yale University (2016); Research in Behavioral Finance Conference (2016, *Poster*)

5 **Asset Pricing with Large Investors**, *(2017)*, with Semyon Malamud.

Presentations: Paul Woolley Centre Conference at the London School of Economics (2017, *scheduled*); 2017 Africa Meeting of the Econometric Society; European Summer Symposium in Financial Markets (2017, *evening sessions*)

6 **Liquidity Provision in the Foreign Exchange Market**, *(2017)*, with Florent Gallien, Serge Kassibrakis, Semyon Malamud, and Nataliya Klimenko.

7 **Asymmetric Information and Liquidity Provision**, *(2016)*.

Presentations: American Finance Association Annual Meeting (2016); Brown-bag, Swiss Finance Institute - Leman (2016); Australasian Finance and Banking Conference (2014); Rice University Faculty Seminar Series (2014)

Work in Progress

8 **On The Volatility and Volume Relationship: Evidence From a Natural Experiment**, *(2016)*.

9 **Beliefs-Adjusted CAPM**, *(2017)*, with Kevin Crotty.

10 **Investment Games**, *(2017)*, with Kerry Back.

11 **The Life Cycle of Investor Behavior**, *(2016)*, with Florent Gallien, Serge Kassibrakis, Semyon Malamud, and Nataliya Klimenko.

12 **Informed Trading by Institutional Investors: Effects of Disclosure Requirements**, *(2016)*, with Edwin Hu and Maclean Gaulin.

Math/Physics

A Mathematical Theory of Stochastic Microlensing II. Random Images, Shear, and the Kac-Rice Formula.
with Arlie Petters and Brian Rider, *J. Math. Phys. 50, 122501 (Dec., 2009).*

A Mathematical Theory of Stochastic Microlensing I. Random Time-Delay Functions and Lensing Maps.
with Arlie Petters and Brian Rider, *J. Math. Phys. 50, 072503 (Oct., 2009).*

Domination Cover Pebbling: Graph Families.
with James Gardner, Anant Godbole, Annalies Vuong, Nathaniel Watson, Carl Yerger, *J. of Combinatorial Mathematics and Combinatorial Computing 64, 255 (2008).*

Sierpinski Gasket Graphs and Some of their Properties.
with Anant Godbole, *Australasian Journal of Combinatorics 35, 181 (Jun., 2006).*

A Mathematical Theory of Stochastic Microlensing III. Densities for Radial, Spatial Distributions with General Random Mass Spectrum.
with Arlie Petters, *Preprint (2010).*

A Mathematical Theory of Stochastic Microlensing. IV. Global Expectations and Shear for Radial Distributions with a General Random Mass Spectrum.
with Arlie Petters, *Preprint (2010).*

Workshop/ Summer School (by Invitation)

Finance **Yale Summer School in Behavioral Finance**, New Haven, 2013.

Math/Physics **Dark Matter, Complex Methods, and Orbifolds in Gravitational Lensing**, Petters Research Institute, Dangriga, Belize, March 2010.

Topological Complexity of Random Sets, American Institute of Mathematics, Palo Alto, August 2009.

Random Fields and Stochastic Geometry, BIRS, Banff, Canada, February 2009.

Workshop on Probability and its Lensing Applications, Petters Research Institute, Dangriga, Belize, December 2008.

Selected Talks and Department Colloquia (*— Coauthor)

Finance

Job Market [4] EDHEC Business School; Stockholm School of Economics; University of Oregon; Instituto Tecnológico Autónomo de México; University of Arizona; University of Washington Seattle; University of British Columbia; Frankfurt School of Finance & Management; London School of Economics and Political Science; University of Houston; University of Indiana – Bloomington; Baruch College – The City University of New York; University of Oklahoma, *scheduled*; BI Norwegian Business School, *scheduled*; Luxembourg School of Finance, *scheduled*; University of Texas – Austin, *scheduled*; Australian National University, *scheduled*

2018 3rd Annual CEPR Symposium [6]; Africa Meeting of the Econometric Society [4]

2017 ESSEC Business School [4]; FMA (Lisbon) [7]; WFA* [2]; Annual Paul Woolley Centre Conference at the London School of Economics, *scheduled* [5]; European Summer Symposium in Financial Markets[5]; Africa Meeting of the Econometric Society [5]

2016 AFA [7]; Miami Behavioral Finance Conference [4]; Annual Whitebox Advisors Graduate Student Conference at Yale University [4]

Math/Physics Joint Mathematics Meetings (×2); CAARMS 18 at Princeton University; Workshop on Random Fields and Stochastic Geometry, BIRS

Awards & Honors

Participant, Yale Summer School in Behavioral Finance, June 2013.

Travel Award, Joint Math Meetings, January 2011.

Research Highlight, Journal of Mathematical Physics, October 2009.

Best Poster Presentation, CAARMS 14, July 2008.

Outstanding Graduate Student, Department of Mathematics, ETSU, May 2005.

Valedictorian, Department of Mathematics, University of Buea, December 2003.

Teaching Experience

Instructor **Investment Theory**, UBC Sauder School of Business, 2018.

Computational Finance, École Polytechnique Fédérale de Lausanne, 2017.

Math Camp, Business School, Economics, and Political Science departments.
Rice University, 2013 and 2014

Math 216 (Linear Algebra and ODEs), Duke University, 2010.
(*Linear Algebra and Differential Equations,* by G. Peterson and J. Sochacki)

Teaching Assistant **Core Finance, Professional MBA**, Rice University, 2014.

Service

Discussant LAEF Over-the-Counter Markets and Securities Workshop (2018, *scheduled*); Northern Finance Association Conference (2018, *scheduled*); Cambridge - Lausanne Workshop (2018); Tel Aviv Finance Conference (2017); FMA-Lisbon (2017); FIRS (2016); EFA (2016); Australasian Finance & Banking Conference (2014)

Referee Management Science; Journal of Economic Behavior and Organization; Journal of Mathematical Economics; Mathematics and Financial Economics (×2); The B.E. Journal of Theoretical Economics; Journal of Methodology and Computing in Applied Probability

Organizer **Student Brown-bag**, Rice – UH; Finance and Accounting, 2014 – 2016.

Chair **Joint Math Meetings**, Session on Geometry and Topology IV, 2010.

Vice-President **Bouchet Society**, Duke University, 2009 – 2010.

Membership

Current **American Finance Association, Econometric Society, Northern Finance Association**.

Past **Society for Financial Studies, European Finance Association, American Mathematical Society, Society for Industrial and Applied Mathematics**.

Software

Intermediary Level **Python, R, Mathematica**.

Languages

French **Fluent (Native)**

English **Fluent**

References

Kerry E. Back, *(Chair, Ph.D.)*, J. Howard Creekmore Professor of Finance and Professor of Economics.

Jones Graduate School of Business and the School of Social Sciences

Rice University

kerryback@gmail.com +1 713-348-4168

Semyon Malamud, *(Chair, PostDoc)*, Associate Professor of Finance and Swiss Finance Institute Senior Chair.

College of Management

Ecole Polytechnique Fédérale de Lausanne

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Hülya K. K. Eraslan, Ralph O'Connor Professor of Economics.

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Yuhang Xing, Associate Professor of Finance.

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Abstracts

Estimating Asset Pricing Models with Frictions, (2017).
with Kevin Crotty, *Economics Letters, Forthcoming*

We jointly quantify the magnitude of risk aversion and transactions costs implied by asset pricing models with trading frictions. With constant relative risk aversion and symmetric transactions costs, estimated transactions costs on Treasury bills are implausibly high, a manifestation of the risk-free rate puzzle. Introducing short-selling costs for Treasury bills offers a resolution of the puzzle. The resulting confidence sets show upper bounds on risk-aversion to be at reasonable levels. Short-selling costs for Treasuries are not necessary under recursive preferences.

Law of Small Numbers and Hysteresis in Asset Prices and Portfolio Choices, *(2017)*.
Working Paper

I present a model of belief formation in asset markets based on the law of small numbers heuristic (Tversky and Kahneman, 1971) and study its implications for both asset prices and portfolio choices. This heuristic is the belief that small samples should be representative of the population, which leads to hysteresis in beliefs. The following properties arise in a in a continuous time Lucas Orchard in which a subset of investors believes in the law of small numbers: (1) asymmetric v-shaped trading patterns; (2) the disposition effect; (3) momentum; (4) reversal. Momentum crashes occur, and the reversal of momentum returns is slower when portfolios are formed with larger assets. Belief in the law of small numbers implies predictable patterns in beliefs. I show that the risk associated with the momentum strategy can be managed by accounting for this predictability.

Signaling in Over-the-Counter Markets: Benefits and Costs of Transparency, *(2017)*, **(Forthcoming), Journal of Financial and Quantitative Analysis**.
with Kerry Back and Ruomeng Liu, *Working Paper*

We provide a theoretical rationale for dealer objections to ex-post transparency in corporate bond and other OTC markets: Disclosure of the terms of a transaction conveys information possessed by the dealer about the asset quality and reduces the dealer's rents when she disposes of the inventory in a second transaction. We show that this costly signaling in a transparent market benefits investors through lower spreads and higher volume. In fact, dealers may gain from transparency despite lower spreads when gains from trade are small or adverse selection is high, because in those circumstances dealer profits rise from higher volume more than they fall from smaller spreads.

Asset Pricing with Large Investors, *(2017)*.
with Semyon Malamud, *Working Paper*

We derive closed form expressions for equilibrium asset prices and liquidity in an economy populated by a finite number of large, strategic, risk averse investors. The model allows for arbitrary risk preferences, any number of assets, and an arbitrary distribution of asset payoffs. In equilibrium, assets are priced according to the standard consumption Euler equation plus a correction term accounting for market illiquidity (price impact), linked to an endogenous measure of systemic risk that puts a large weight on low consumption states. Wealth effects imply that price impact is generally asymmetric, which leads to the emergence of endogenous systemic assets: That is, assets whose sell-off triggers large moves in all security prices. Market liquidity is non-monotonic in funding liquidity and may decrease in the number of investors. In the presence of liquidity shortage, price impact becomes negative and gives rise to an illiquidity premium in asset prices.

Liquidity Provision in the Foreign Exchange Market, *(2017)*.
with Florent Gallien, Serge Kassibrakis, Semyon Malamud, and Nataliya Klimenko, *Working Paper*

Foreign exchange operates as a two-tiered over-the-counter (OTC) market dominated by a handful of large, strategic dealers. Using proprietary high frequency data on quotes by the major dealers in the Dealer-to-client market, we find a significant heterogeneity in their behavior. We develop a model of strategic competition that accounts for this heterogeneity and the two-tier market structure. We use the model to recover dealers' risk aversions and inventories from their quotes and construct an endogenous measure of systemic, non-diversifiable risk, capturing the cross-sectional liquidity-risk mismatch. Consistent with the model predictions, we find that liquidity mismatch negatively predicts LP quotes, both in the time series and in the cross-section.

Asymmetric Information and Liquidity Provision, *(2016)*.
Working Paper

The presence of information asymmetry increases the probability that a potential predator will provide liquidity rather than engaging in predatory trading during liquidation by a distressed trader. More information asymmetry is associated with lower expected losses from liquidation for the distressed trader in illiquid markets. There is a negative correlation between the degree of information asymmetry and the returns from predatory trading, which is consistent with empirical findings. These results imply that strategic traders are more likely to stabilize markets by providing liquidity when information is asymmetric. These findings highlight a cost associated with disclosure and can explain the documented rarity of illiquidity episodes in financial markets.

Increasing Risk Aversion, Habits, and Life-Cycle Investing, *(2017)*, **(Forthcoming), Mathematics and Financial Economics**.
with Kerry Back and Ruomeng Liu, *Working Paper*

We derive the optimal portfolio for an investor with increasing relative risk aversion in a complete continuous-time securities market. The IRRA assumption helps to mitigate the criticism of constant relative risk aversion that it implies an unreasonably large aversion to large gambles, given reasonable aversion to small gambles. The model provides theoretical support for the common recommendation of financial advisors that older investors should reduce their allocations to risky assets and is consistent with empirical findings on the relations between age, wealth, and portfolios. Preferences for habits and IRRA preferences have some similar implications and are complementary assumptions.

On The Volatility and Volume Relationship: Evidence From a Natural Experiment, *(2017).*
Work in Progress

Blizzards in Manhattan, New York, NY cause a significant reduction in trading volume for firms located outside of the Northeast region of the United States of America. I use this exogenous change in volume to establish the causal relationship between volume and volatility. I find that the drop in volume causes a drop firms' observed volatility. The effect is stronger post 2003 and NYSE's implementation of "autoquote", which led to an increase in trading volume from algorithmic traders. Our evidence suggests that trading activity by institutional investors (in of itself) increases volatility