

ROMAN SIGALOV

rsigalov@g.harvard.edu ♦ rsigalov.github.io ♦ 857-263-1047

EDUCATION

Harvard University

PhD Candidate, Business Economics

Field: financial economics. Advisors: John Y. Campbell, Adi Sunderam, Emil Siriwardane

2017 - 2023 (expected)

New Economic School

BA in Economics, top-1 student of the graduating class

2013 - 2017

WORK EXPERIENCE

Goldman Sachs, Summer Associate

Investment Strategy Group. Systematic option strategies

Jul. 2021 - Aug. 2021

RESEARCH

In my research, I apply dynamic optimization and high performance computing techniques to study asset pricing. I show how firm fundamentals affect option prices, analyze pricing of jump risk in the cross-section of equity stock returns, and show implications of time-series movements of index option for macro-finance models.

Jump risk: estimation and implications

with Nikunj Kapadia and Emil Siriwardane

- Estimated model free jump measure based on the difference between risk-neutral variance and integrated variation for the cross-section of equity option. Exposure to the average jump measure is priced in the cross-section of stock returns.
- Used particle filter maximum likelihood to show that leading macro-finance models are inconsistent with the time-series of the index-based jump measure.

Real and Financial Options: A Production Based Approach to Option Pricing

- Documented higher skews for growth firms in expansions but not in recessions.
- Priced options in a novel model based on firms investments consistent with the finding.
- Solved firm's dynamic optimization problem utilizing large scale parallelization with multiple GPUs to match the model quantitatively to the data.

Portfolio choice with sustainable spending: A model of reaching for yield

Published in *Journal of Financial Economics* (2022), with John Y. Campbell

- Solved a dynamic portfolio choice model with a constraint linking spending rate and expected portfolio return.
- Showed that a lower real interest rate leads to more risk-taking in both static and dynamic models.

OTHER RESEARCH EXPERIENCE AND TEACHING

Moscow Exchange, Undergraduate Thesis Writer (Spring 2017)

Studying behavior of market makers during periods of large selling and buying pressure

Referee for The Quarterly Journal of Economics

Teaching assistant at Harvard to John Y. Campbell (Fall 2019) and Tarek A. Hassan (Spring 2021)

PhD level asset pricing, Certificate of Distinction in Teaching (×2)

TECHNICAL SKILLS

Programming Languages

Python (incl. Numba for just-in-time compilation, JAX for GPU acceleration), R, Julia

PERSONAL INTERESTS

Alpine skiing: competitive level in high school, regional champion in slalom, Russian national championships participant.