

ROMAN SIGALOV

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EDUCATION

Harvard University, PhD in Business Economics *2017 - 2023 (expected)*
Advisors: John Y. Campbell, Adi Sunderam, Emil Siriwardane. GPA 3.9/4.0

New Economic School, BA in Economics *2013 - 2017*
Top-1 student of the graduating class, GPA: 9.6/10.0

WORK EXPERIENCE

Goldman Sachs, Summer Associate, Investment Strategy Group *Jul. 2021 - Aug. 2021*
• Developed a systematic approach for optimizing carry costs of option based tail hedging strategies.

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.
- 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.
- Developed a firm-characteristics-based model for pricing equity options.
- 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 (top-3 Finance Journal), with John Y. Campbell

- Solved a dynamic portfolio choice model with a constraint linking spending rate and expected portfolio return.

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

TECHNICAL SKILLS

Programming Languages

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

ACHIEVEMENTS AND SCHOLARSHIPS

Derek Bok Center Certificate of Distinction in Teaching (2019 and 2021)

Kathryn W. and Shelby Cullom Davis Scholarship (2017-2018 academic year)

Petr Aven Scholarship: \$15,000 to finance an exchange program at Harvard University (2016)

National Economics Olympiad: prizewinner among 25,000 participants (2013)

Alpine skiing: regional champion in slalom, Russian national championships participant (2010)