Tax Aware

Liquidity without Liquidation

August 28, 2026 - Stanley Krasner, Joseph Liberman, Nathan Sosner, Sydney Brenner

This paper shows that investors may be able to access meaningful liquidity from tax-aware strategies while preserving the remaining portfolio's tracking error, leverage, and pre-tax return potential. An adaptive withdrawal process may also better manage capital-gain realization than a fixed withdrawal schedule.

Tax Aware

The Tax Benefits of Pre-Tax Alpha

March 18, 2026 - Joseph Liberman, Nathan Sosner, Pedro Freitas

This paper shows that pre-tax alpha may enhance tax benefits in tax-aware long-short strategies by accelerating NAV growth and creating new positions that support loss realization. The result is meaningfully higher after-tax wealth—especially at longer horizons and higher levels of leverage.

ESG Investing

Climate Risk Pricing

December 30, 2025 - Nicolae Gârleanu, Lasse H. Pedersen

This paper develops a macro-finance model of how transition and physical climate risks are priced in markets. It shows that brown assets can hedge climate risk when carbon taxes are too low, challenging the view that risk-based investing naturally supports climate goals.

ESG Investing

Can Sustainable Finance Save the Planet?

October 4, 2025 - Lasse H. Pedersen

This paper asks whether sustainable finance can meaningfully mitigate climate change by raising polluters' costs of capital. While theory implies a strong pricing of emissions, the evidence suggests markets currently price carbon far too weakly to drive a net-zero transition.

Machine Learning

Understanding The Virtue of Complexity

July 10, 2025 - Bryan T. Kelly, Semyon Malamud

We respond to recent academic challenges to aspects of the "virtue of complexity" described in our prior research. We provide detailed discussions of how complex models learn in small samples, the roles of "nominal" and "effective" complexity, the unique effects of implicit regularization, and the importance of limits to learning. We then present new empirical and theoretical analyses that expand on KMZ. Finally, we introduce and demonstrate the virtue of ensemble complexity.

Machine Learning

APT or "AIPT"? The Surprising Dominance of Large Factor Models

October 1, 2024 - Antoine Didisheim, Shikun Ke, Bryan T. Kelly, Semyon Malamud

The authors introduce artificial intelligence pricing theory (AIPT), which conjectures that returns are driven by a large number of factors.

ESG Investing

In Search of the True Greenium

March 1, 2024 - Marc Eskildsen, Markus Ibert, Theis Ingerslev Jensen, Lasse H. Pedersen

The greenium (the expected return of green securities relative to brown) is a central impact measure for ESG investors. We propose a robust green score combined with forward-looking expected returns, yielding a more precisely estimated annual equity greenium.

Machine Learning

How Global is Predictability?

November 3, 2023 - Oliver Hellum, Lasse H. Pedersen, Anders Rønn-Nielsen

We show that asset pricing has a strong global component in the sense that a common global model has stronger predictability of stock returns than local models estimated in each country – even when the global model is estimated without the use of local data. Nevertheless, asset pricing has a small local component – in order to detect it, we develop a refined transfer learning model that gains power and precision by building off the global component.

Fixed Income

Corporate Bond Factors: Replication Failures and a New Framework

October 5, 2023 - Jens Dick-Nielsen, Peter Feldhütter, Lasse H. Pedersen, Christian Stolborg

We demonstrate that the literature on corporate bond factors suffers from replication failures, inconsistent methodological choices, and the lack of a common error-free dataset. Going beyond identifying this replication crisis, we create a clean database of corporate bond returns where outliers are analyzed individually and propose a robust factor construction.

Machine Learning

Financial Machine Learning

August 1, 2023 - Bryan T. Kelly, Dacheng Xiu

In this survey the nascent literature on machine learning in financial markets, we highlight the best examples of what this line of research has to offer and recommend promising directions for future research.