# Breaks and Trends in Factor Premia [*]

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## Abstract

We propose a cross-sectional asset pricing model that incorporates structural breaks and regime-dependent momentum trends in factor premia. To estimate a time-varying slope factor model, we employ total-variation regularization (TV), which allows for flexible stock return prediction. This approach produces piecewise linear trend lines at varying frequencies, capturing either long-term or fine-grained factor momentum trends depending on the TV penalty, which is calibrated using a machine learning framework. The method demonstrates large-sample theoretical properties, including consistency and asymptotic normality. Out-of-sample trend-following factor-timing strategies outperform traditional buy-and-hold or fixed-window momentum strategies. Furthermore, dynamic factor selection and time-varying premia estimates lead to improved asset pricing factor model specification compared to time-invariant models. This framework provides a robust tool for capturing dynamic market conditions and offers significant advantages in both predictive accuracy and portfolio performance.

**Keywords:** cross-sectional predictability; factor premia; momentum trends; structural breaks; time-varying sparsity.