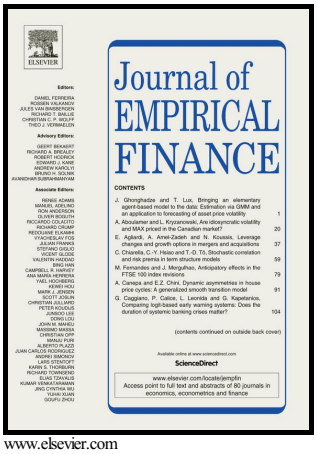

Timescale Betas and the Cross Section of Equity Returns: Framework, Application, and Implications for Interpreting the Fama–French Factors

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Timescale Betas and the Cross Section of Equity Returns: Framework, Application, and Implications for Interpreting the Fama–French Factors

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Abstract

We show that standard beta pricing models quantify an asset's systematic risk as a weighted combination of a number of different timescale betas. Given this, we develop a wavelet-based framework that examines the cross-sectional pricing implications of isolating these timescale betas. An empirical application to the Fama–French model reveals that the model's well-known empirical success is largely due to the beta components associated with a timescale just short of a business cycle (i.e., wavelet scale 3). This implies that any viable explanation for the success of the Fama–French model that has been applied to the Fama–French factors should apply particularly to the scale 3 components of the factors. We find that a risk-based explanation conforms closely to this implication.

Keywords: Asset pricing, Timescale betas, Cross section of stock returns, Fama–French factors, Wavelets

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