

[DOI: 10.20472/IAC.2015.019.096](https://doi.org/10.20472/IAC.2015.019.096)

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TIME-VARYING MULTIVARIATE EXTENSION OF THE LINEAR MARKET MODEL FOR DEVELOPED AND EMERGING MARKETS

Abstract:

This paper aims to evaluate the effectiveness of a Linear Market Model (consistent with the Two-moment CAPM) which permits beta risk. This evaluation leads to our positing two extensions. The first extension is a time-varying Linear Market Model using state space model which permits for time-varying beta risk. The second is a multivariate extension of the time-varying Linear Market Model permitting the between country stock market correlation structure to be constant over time. The analysis utilises weekly data from several emerging and developed markets for periods both before and after the October 2008 financial crisis. The findings lend great credence to the hypothesis that utilising the multivariate time-varying Linear Market Model is better in terms of in-sample modelling and out-of-sample forecasting procedure for both emerging and developed markets.

Keywords:

CAPM, Market model, Time-varying systematic covariance risk, Multivariate state space model, Stock market Integration

JEL Classification: C19, C49, C58