# DTS (Duration Times Spread) -

# A New Measure of Spread Exposure in Credit Portfolios

Arik Ben Dor[*], Lev Dynkin[**], Jay Hyman[§], Patrick Houweling[†], Erik van Leeuwen[‡] and Olaf Penninga[±]

## ABSTRACT

The paper proposes a new measure of spread exposure for corporate bonds portfolios based on a detailed analysis of credit spread behavior. We find that changes in spreads are not parallel but rather linearly proportional to the level of spread, whereby bonds trading at wider spreads experience larger spread changes. Consequently, systematic spread volatility of a sector is proportional to its spread; similarly, the idiosyncratic spread volatility of a particular bond or issuer is proportional to its spread, irrespective of sector, maturity and time period. We confirm that the behavior of spreads results in excess return volatility being proportional to Duration Times Spread (DTS). We demonstrate the advantage of DTS over spread-duration in predicting future excess return volatility, index replication and portfolio construction and discuss the implications of our findings for the formulation of investment constraints, asset allocation, risk modeling and performance attribution.

[*] Arik Ben Dor (corresponding Author), Analyst, Quantitative Portfolio Strategy, Lehman Brothers, tel +1-212-5267713, abendor@lehman.com

[**] Lev Dynkin, Head of Quantitative Portfolio Strategy, Lehman Brothers, tel +1-212-5266302, ldynkin@lehman.com

[§] Jay Hyman, Senior Analyst, Quantitative Portfolio Strategy, Lehman Brothers, tel +972-3-6238745, jhyman@lehman.com

[†] Patrick Houweling (corresponding Author), Senior Quantitative Researcher, Robeco Asset Management, tel +31-10-2243538, P.Houweling@robeco.nl

[‡] Erik van Leeuwen, Senior Portfolio Manager, Robeco Asset Management, tel +31-10-2242543, E.M.H.van.Leeuwen@robeco.nl

[±] Olaf Penninga, Senior Portfolio Manager, Robeco Asset Management, tel +31-10-2242048, O.Penninga@robeco.nl