
DAVE SAUNDERS, University of Waterloo, 200 University Avenue West, Waterloo, Ontario N2L 3G1
Risk Contributions of Systematic Factors in Multi-Factor Credit Risk Models

Multi-factor credit portfolio models are used widely today for measuring and managing economic capital as well as for pricing credit portfolio instruments such as collateralized debt obligations (CDOs). Commonly, practitioners allocate capital to the portfolio components, such as individual sub-portfolios, counterparties, or transactions. The hedging of credit risk is generally also focused on the “deltas” of the underlying names in the portfolio. Understanding the contribution to economic capital or pricing of the systematic factors (or credit drivers), which are at the heart of a multi-factor credit model, can lead to better methodologies for managing concentration risk and hedging credit portfolios effectively.

However, since the total capital is not a homogeneous function of these factors, the standard theory of marginal capital contributions does not work well. We present and compare several methodologies for defining and measuring the risk contributions of systematic credit factors.