

# Optimal Static Hedging of Equity & Credit Risk Using Derivatives

Dirk Becherer, Ian Ward\*  
d.becherer, ian.ward at imperial.ac.uk  
Department of Mathematics  
Imperial College London  
London SW7 2AZ  
United Kingdom

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## Abstract

We develop a generic method for constructing a static minimum variance hedge for a wide range of derivatives, that may involve optimal exercise features, by using a portfolio of more basic hedging derivatives. This portfolio is constructed from hedging instruments that may have different maturities, to provide a hedge along a sequence of future hedging dates. The hedge portfolio is static in that it is initiated at time zero, does not involve intermediate re-balancing, but may be gradually unwound over time. We study the static hedging of a convertible bond to demonstrate the method by an example that involves equity and credit risk. We investigate the robustness of the hedge performance with respect to parameter and model risk by numerical experiments.

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\*Corresponding author. This work is to contribute towards his PhD at Imperial College.

<sup>†</sup>We welcome comments, including references that we may have missed