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*Regulatory Discretion and the Valuation of CoCo Bonds*

A contingent convertible (CoCo) bond begins life as subordinated debt, but converts into common equity when the issuing institution begins to experience financial distress. In practice conversion triggers involves both an objective component (e.g. a CET1 ratio below a fixed threshold such as 5.5%) and a subjective component (e.g. regulatory judgement that the firm is non-viable), however the nascent academic literature on CoCo valuation tends to ignore the subjective component. In this talk we develop a model (to the best of our knowledge, the first model) that explicitly accounts for regulatory discretion in the conversion trigger. We assume that conversion occurs at the first event time of a Cox process whose intensity is a function of the firm's asset value (which evolves as affine geometric Brownian motion), with the functional form reflecting investors' beliefs on how the regulator is likely to act. Bond valuation reduces to computing conditioned Laplace transforms in the context of killed diffusions (e.g. the transform of the killing time, conditioned on the process remaining above a prespecified level prior to killing), each of which can be characterized as the solution to an appropriate ODE. Time permitting we will discuss numerical results when the model is calibrated to balance-sheet data from Canadian banks.