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University of Wisconsin Milwaukee, PO Box 413, Milwaukee, WI 53201-0413, and **Katharina
Zaglauer**. *Option Pricing in a Regime-Switching Black-Scholes Market*. Preliminary report.

This paper considers a Black-Scholes market in which the coefficients of the geometric Brownian motion (modeling the stock price process) evolve according a finite-state, continuous-time Markov chain that is independent of the driving Brownian motion process. The Markov-modulated model for stock prices is an incomplete market model. We characterize the equivalent martingale measures in terms of their relation to the Esscher transform and indicate how to determine the possible value of the options. This work extends that of Elliott, Chan and Siu (2005) who investigate option pricing with the Esscher transform. (Received February 11, 2008)