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A Top-Down Approach to Multi-Name Credit

We examine multi-name credit models from the perspective of point processes. In this context, it is natural to pursue a top down approach: the economy as a whole is modeled first. The technique of random thinning consistently generates sub-models for individual firms or portfolios. A candidate for the top down approach is a self-exciting process, whose intensity at any time depends on the sequence of events observed up to that time. A self-exciting process incorporates the contagion observed in credit markets and avoids an ad hoc choice of copula. The familiar doubly stochastic process is at the opposite end of the spectrum in the sense that it is constructed from the bottom up: individual firm intensities are estimated and then aggregated. We rigorously analyze self-exciting and doubly stochastic processes with respect to their ability to capture contagion. This is joint work with Lisa Goldberg.