1099-60-31Alec N Kercheval* (kercheva@math.fsu.edu), Department of Mathematics, 1017 Academic
Way, rm 208, Florida State University, Tallahassee, FL 32306-4510, and Pierre Garreau. Jump
dependence, multidimensional default risk, and a new class of structural default
models. Preliminary report.

We describe a framework for default risk in which the time of default is the first jump of the log-return below a (possibly stochastic) level. This is equivalent to a stochastic intensity default model when the stock price is an exponential Levy process. To understand basket default risk, we therefore need to understand the jump dependence of respective prices processes. We show that two one-dimensional Levy processes form a two-dimensional Levy process if and only if the joint survival times satisfy a two-dimensional memoryless property, and therefore are bivariate exponential and the survival times satisfy a Marshall-Olkin copula. This provides a structure theorem for modeling basket default instruments for multidimensional Levy prices processes. (Received December 28, 2013)