What makes dependence modeling challenging? Pitfalls and ways to circumvent them

Abstract:
We present a list of challenges one faces when given the task of modeling dependence between stochastic objects, with a special focus on financial applications. Our aim is to draw the readers’ attention to common (and not so common) pitfalls and fallacies, and we particularly address readers who are new to dependence modeling. The presented list of challenges is clearly not complete, but it gives a flavor of how difficult and subtle the task of dependence modeling can be. Moreover, the readers shall get some intuition about what challenges are structural and cannot be overcome, and what challenges allow for a better solution than common practice might suggest.