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*A financial market with interacting investors: does an equilibrium exist?*

While trading on a financial market, the agents we consider take the performance of their peers into account. By maximizing individual utility subject to investment constraints, the agents may ruin each other even unintentionally so that no equilibrium can exist. However, when the agents are willing to waive little expected utility, an approximated equilibrium can be established. The study of the associated backward stochastic differential equation (BSDE) reveals the mathematical reason for the absence of an equilibrium. Presenting an illustrative counterexample, we explain why such multidimensional quadratic BSDEs may not have solutions despite bounded terminal conditions and in contrast to the one-dimensional case.

The talk is based on joint work with Gonçalo dos Reis (TU Berlin).