**XVIII заседание, 19 января 2016 г. «Fat tails and copulas: limits of diversification revisited». Докладчик:  Artem Prokhorov (University of Sydney).**

*Abstract:*

*We consider the problem of portfolio risk diversification in a Value-at-Risk framework with heavy-tailed risks and arbitrary dependence captured by a copula function. We use the power law for modelling the tails and investigate whether the benefits of diversification persist when the risks in consideration are allowed to have extremely heavy tails with tail indices less than one and when their copula describes wide classes of dependence structures. We show that for asymptotically large losses with the Eyraud-Farlie-Gumbel-Morgenstern copula, the threshold value of tail indices at which diversification stops being beneficial is the same as for independent losses. We further extend this result to a wider range of dependence structures which can be approximated using power-type copulas and their approximations. This range of dependence structures includes many well known copula families, among which there are comprehensive, Archimedian, asymmetric and tail dependent copulas. In other words, diversification increases Value-at-Risk for tail indices less than one regardless of the nature of dependence between portfolio components within these classes. A wide set of simulations supports these theoretical results.*