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Risk-Based Capital Requirements for Financial Institutions and the concept of PELVE

Financial institutions, such as banks and insurance companies, which provide guarantees of payment to their customers, and in turn receive guarantees of their account values from government entities, are subject to capital requirement regulations. Those regulations have over the last two decades (starting with Basel II in 2004) moved towards basing their functioning on risk assumed by those financial institutions.

Basel II and Solvency II risk-based capital requirements use the concept of Value at Risk (VaR). Swiss Solvency Test (SST), on the other hand, uses the concept of Expected Shortfall (ES). While these are different concepts, in 2015 the European Union recognized the SST as the first regime to be fully equivalent to Solvency II. Also, In the recent Fundamental Review of the Trading Book (FRTB), the Basel Committee on Banking Supervision proposed the shift from the 99% Value-at-Risk (VaR) to the 97.5% Expected Shortfall (ES) for internal models in market risk assessment.

In this talk, we discuss the relatively new concept of Probability Equivalent Level of VaR-ES (PELVE), which is the ratio of the ES confidence level to that of VaR with an equivalent risk value. We also provide a review of implications of using these measures for capital requirements, and switching from VaR to ES.