

MBA-Level Financial Risk Management

The practice of professional securities trading is associated with a variety of financial risks. Our aim is to become familiar with the theory and practice of managing those risks. We begin with a review of the people, places and mechanisms involved in financial asset trading. We identify the primary problems facing risk managers and the tools they use to manage risk.

We then discuss derivatives contracts such as futures and options, as well as mortgage-backed securities. We discuss when and how much to hedge, and when and why you should manage risk. We introduce the idea of arbitrage and motivate it with some simple examples.

We talk about financial option contracts and discuss the properties and uses of option contracts. We go over the leading methods for pricing, or figuring out the market value, of option contracts. We first discuss valuation by replication and then risk-neutral valuation. We introduce binomial tree simulations and formulas like Black-Scholes.

Finally, we discuss the problem of trying to predict the volatility of asset prices and interest rates. Then move to Value-at-Risk, a more advanced risk measurement tool which can be estimated and used to predict downside portfolio risk.