

2 - Day Workshop: *Basic Introduction to Risk Management*

Course objectives

The workshop “Basic Introduction to Risk Management” is designed to provide a thorough introduction to the basic concepts needed when measuring and managing the risk of portfolios and single securities. Focus of the workshop will be on portfolios that have an absolute return target and portfolios that are managed against an index and, therefore, have an excess return target.

The workshop gives first a brief overview of how to measure performance. It then presents in detail the key risk measures used nowadays. As a consequence of the subprime and Euro crisis, many investors include more and more downside risk measures into the analysis of their assets. These downside risk measures will be explained in detail as well

Finally, the workshop looks at risk-adjusted return measures like Sharpe ratio that tell investors how much return they get for the risk they are exposed to.

Workshop background

When analyzing an investment, no matter if it is a single security or a complete portfolio, it is key to understand both sides of the coin: the return achieved and the risk involved. In a complex financial world that was heavily affected by downswings of the equity market like in 2008 or 2011, knowing the risk of an investment is critical. Especially, the investor needs to know his downside risk, i.e., the risk of losing money, in order to be prepared and choose or adjust his investment accordingly.

This practical 2-day introductory workshop to risk management is organized to give a clear understanding of the key concepts and their application when investing. Two hands-on case studies which have to be solved by the workshop participants will contribute to the learning efforts. One of these cases will look at absolute return portfolios like hedge funds and one will look at portfolios managed relative to an index as benchmark.

Who for?

The workshop is designed for junior and middle level managers working in finance, asset and risk management who want to get a structured introduction to the topics of performance and risk measurement. Students preparing for the CFA or FRM exams would also greatly benefit from the course.

This workshop is very interactive. This means that the concepts will be presented with many applications which are explained by the trainer and by using many exercises that have to be solved by the participants with the trainer’s support.

No prior knowledge on the subjects is required but a strong interest in using mathematical and statistical concepts (high school level) is needed. The participants should also have experience working with Microsoft Excel since most of the exercises when calculating performance and risk figures are done in Excel. No VBA, however, is needed.

Benefits of the workshop

The workshop will enable you to:

- Get introduced to the basic mathematics and statistics needed for risk and performance calculations.
- Understand the various return measurement concepts (arithmetic return vs. geometric return, annualized vs. cumulative return, absolute return vs. excess return).
- Learn how to calculate key risk measures like, e.g., volatility, tracking error, shortfall risk or downside risk.
- Get a thorough understanding of how return and risk relate to each other and can be measured (Sharpe ratio, Information ratio, Treynor ratio, Sortino ratio).
- Learn how all these concepts can be implemented in Excel.
- Understand the differences between symmetrical and asymmetrical risk.

Workshop agenda

The workshop covers the basic concepts of risk measurement needed to manage the risk of single securities and complete portfolios. These concepts are presented in detail for absolute return portfolios and portfolios managed against an index. The course is designed around many exercises and two longer case studies.

Day 1	
09.00 – 09.15	Introduction and Course Description
09.15 – 10.45	Prerequisites: <ul style="list-style-type: none"> • Basic Definitions • The Summation Sign • The Product Sign • Calculating with Roots and Powers • The Normal Distribution • Quantiles
10.45 – 11.15	Coffee break
11.15 – 12.45	Performance measures for “Absolute Return” strategies: <ul style="list-style-type: none"> • Discrete Return • Continuous Return • Portfolio Return • Market Return • Arithmetic Mean Return • Geometric Mean Return • Cumulative Return • Annualized Return
12.45 – 14.00	Lunch break
14.00 – 15.30	Risk measures for “Absolute Return” Strategies: <ul style="list-style-type: none"> • Variance of a Security • Volatility of a Security • Annualized Variance and Volatility • Downside Variance and Volatility • Shortfall Risk • Drawdown • Maximum Drawdown • Drawdown Recovery Period • Value at Risk (VaR)
15.30 – 16.00	Coffee break
16.00 – 17.00	Risk-adjusted performance measures for “Absolute Return” strategies: <ul style="list-style-type: none"> • Sharpe Ratio

Day 2	
09.00 – 09.15	Introduction to the “Absolute Return” case study: In the first case, the participants have to decide which out of two absolute return funds they would want to buy. Their decision has to be based on calculating the key performance and risk measures introduced on day 1 for absolute return portfolios.
09.15 – 10.45	Group work on the case, discussion and interpretation of the results
10.45 – 11.15	Coffee break
11.15 – 12.45	Performance and risk measures for “Relative Return” strategies. <ul style="list-style-type: none"> • Absolute Return vs. Relative Return • The Excess Return “Alpha” • Covariance of Assets • Correlation • Asset and Portfolio Beta • Tracking Error • Annualized Tracking Error
12.45 – 14.00	Lunch break
14.00 – 15.15	Risk-adjusted return measures for <ul style="list-style-type: none"> • “Relative Return” strategies • Information Ratio • Treynor Ratio • Sortino Ratio
15.15 – 15.30	Introduction to the “Relative Return” case study: In the second case, the participants have to decide which out of two relative return funds they would want to buy. Their decision has to be based on calculating the key performance and risk measures introduced on day 2 for relative return portfolios.
15.30 – 16.00	Coffee break
16.00 – 17.00	Group work on the case, discussion and interpretation of the results.

Disclaimer

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