Economics and Complexity

CAUSAL ARTIFICIAL INTELLIGENCE: CAUSAL METHODS FOR INVESTMENT MANAGEMENT

COURSES ON CAUSAL ARTIFICIAL INTELLIGENCE

SCHEDULES OF THE COURSE

Duration: three hours, from 17,00 to 20,00 pm
The course is on-line
Price: 200 euros
A 20% discount will be applied to members of CFA societies

The course will be repeated three times in the following dates

Friday, June 27, 2025
Friday, July 4, 2025
Wednesday, July 9, 2025

To order a place go to the section Order Forms of the site www.sergiofocardi.net and select the course of your choice.

A PRACTICAL COURSE

This short but intensive on-line course offers an in-depth discussion of how to apply causal modeling to investment management. By representing causal mechanisms and the effects of exogenous interventions causal modelling permits a better understanding of risk and volatility.

In particular it gives an in-depth perspective on how extreme events develops. We live in a period of great uncertainty. Understanding the effects of exogenous interventions might allow a better understanding of extreme scenarios.

The course is presented by Sergio Focardi, PhD. Focardi has a long experience of financial and economic modelling. He currently teaches Risk Management at the University of Genoa – DIME.

Focardi is the author and/or coauthor of many books and articles. Information on Focardi's research activity and publications are available on the site www.sergiofocardi.net The book Causal Modeling for Finance and Business: Foundations, Frameworks, and Applications, coauthored with Prof . Frank Fabozzi, is forthcoming with MIT Press.

CAUSAL METHODS FOR INVESTMENT MANAGEMENT

Investment management is generally based on forecasting techniques. Models forecast returns, prices or other financial quantities and optimize portfolios of investments.

There are different ways to implement forecasts. Most methods estimate a Data Generation Process and project financial quantities in the future. Other methods compute deviations from some form of rational behavior. In general, these methods are not causal.

In the last three decades scientists have developed a different type of models: causal models. Seminal contributions are due to Judea Pearl and to a group of scientists at Carnegie Mellon University who also developed Tetrad a software for causal analysis.

Causal models represent the inner working of systems. Causality is not a law of nature: it is property of systems that can be controlled.

The key conceptual tool is looking at causality as manipulability and interventions. Classical forecasting models project past behavior in the future; causal models try to understand what happens under interventions.

Causal models reveal independent causal mechanisms. Ubiquitous in science, causal models can now be applied to economic, financial and social systems.