# OPTIMIZATION

www.gams.com

High-Level Modeling

The General Algebraic Modeling System (GAMS) is a high-level modeling system for mathematical programming problems. GAMS is tailored for complex, large-scale modeling applications, and allows you to build large maintainable models that can be adapted quickly to new situations. Models are fully portable from one computer platform to another.

Wide Range of Model Types

GAMS allows the formulation of models in **many different problem classes**, including

- Linear (LP) and Mixed Integer Linear (MIP)
- Quadratic Programming (QCP) and
  Mixed Integer QCP (MIQCP)
- Nonlinear (NLP) and Mixed Integer NLP (MINLP)
- Constrained Nonlinear Systems (CNS)
- Mixed Complementary (MCP)
- Programs with Equilibrium Constraints (MPEC)
- Conic Programming Problems
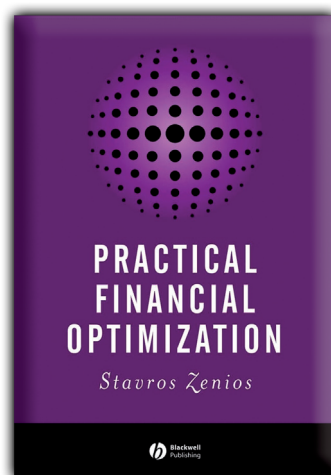- Stochastic Linear Problems
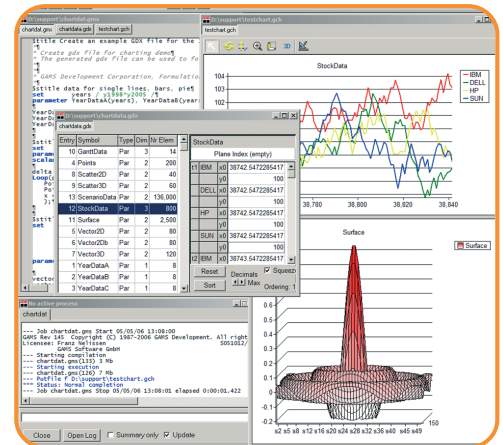
GAMS Integrated Developer Environment for editing, debugging, solving models, and viewing data.

State-of-the-Art Solvers

GAMS incorporates all major commercial and academic state-of-the-art solution technologies for a broad range of problem types, including global nonlinear optimization solvers.

The library of financial optimization models, called FINLIB, contains several of the models described in this book.

- It is available through the companion volume, Practical Financial Optimization: A library of financial optimization models, by Andrea Consiglio, Søren S. Nielsen and Stavros A. Zenios, Blackwell Publishers.
- The GAMS models will also be available at:
  http://www.gams.com/modlibs/

PRACTICAL FINANCIAL OPTIMIZATION

Stavros Zenios

Blackwell
Publishing