

What are the Essential Features of a Good Economic Scenario Generator

Abstract: Recent turmoil in global asset markets has sharpened the focus on the need for comprehensive and robust economic scenario generators for risk management. We examine the properties that a good economic scenario generator should have and offer some comments on the recent CAS/SoA and AAA model proposals. We discuss the application of economic scenario generators to risk management problems with a careful explanation and illustration of the differences between real-world and risk-neutral simulations. A discussion of the implications of using economic scenario generators with deficiencies is given. These deficiencies are discussed in the context of asset allocation and portfolio management, hedging of life insurance guarantees, and pension fund management. The paper closes with a discussion of the extreme events of 2008 and what one should expect from a good economic scenario generator with respect to the simulation of extreme outcomes.

Keywords: Portfolio and Risk-Management, Asset-Liability Management (ALM), Economic Scenario Generator, Simulation

Joe Fairchild
Department of Finance
University of Kansas

Chris K. Madsen, ASA, CFA
Vice President
AEGON N.V.
AEGONplein 50
2591 TV The Hague, Netherlands

Corresponding Author

Hal Pedersen,
Warren Centre for Actuarial Studies & Research
Asper School of Business
Faculty of Management
University of Manitoba
181 Freedman Crescent
Winnipeg, MB R3T 5V4
CANADA
pedersn@cc.umanitoba.ca

(204) 474-9529

Richard Urbach
DFA Capital Management Inc.
Köln, Germany