Real options in the telecommunications industry

Traditional capital budgeting approaches are based on discounted cash flow techniques, which require a number of assumptions about future market structure, demand, and operating costs. If these assumptions are not correct, the actual cash flow will be overestimated, and managers will need to adapt the old decision to the new situation, or even modify the entire strategy. This flexibility can be dealt with [modelled] by basing strategic investment decisions on “real options” techniques, using the notion of an option which represent the right, but not the obligation, to buy or sell a specific asset in the future. Real options are a powerful instrument to avoid or reduce sunk costs, a major problem for the telecommunications operators. In this three day course the basic real options evaluation techniques will be presented, including the relationships among cost models and investment evaluation in the telecommunications industry.

The objectives of the course are: to show the differences between classical capital budgeting and real option evaluation techniques; to explain why and how real options can provide a more flexible instrument for decision making and for project management; and to show how real options can be used in telecommunications asset evaluation, incorporating cost models and impact in the regulatory arena.

Target Audience
Although most examples and case studies will concern the telecom industry, the course will be useful to anyone who is involved in investment evaluations and needs to have a primer about the real options applications.

Program Outline (3 days)

Traditional capital budgeting overview

- Financial objectives of a company
- Discounted cash flow techniques: NPV and IRR
- Role of taxes and depreciation
- Sensitivity analysis and decision tree analysis
- Management of risk

Capital asset pricing model

Examples and applications.

Option-pricing basics and applications

- Limits and failures of traditional capital budgeting
- Financial options and real options: a comparison
- Classification of real options
- Multiple real options
- Net present value distribution in presence of real options
- Project evaluation including real options
- Applications to strategic decisions
- Examples and case studies.

Application of real option investment analysis to the telecommunications industry
TELRIC models and their impact on investment appraisal
Adapting cost models to real options
Case studies

Lecturers

James H. Alleman
James Alleman is currently an Associate Professor for the Interdisciplinary Telecommunications Program at the University of Colorado Boulder and a Senior Consultant with Hagler Bailly. Dr. Alleman was previously the Director of the International Center for Telecommunications Management at the University of Nebraska (USA), Director for Policy Research for GTE, and an economist for the International Telecommunications Union. He has conducted research in the area of telecommunications policy, with emphasis on pricing, costing and regulation as well as on international telephony settlements, telecommunications in the infrastructure and related areas. Dr. Alleman founded Paragon Service International, Inc., a telecommunications call back firm, and has received a patent (number 5,883,964) on the call back technique used by the industry.

Lenos Trigeorgis
Undergraduate studies at the University of Kansas, USA (B.G.S. in Economics, 1980 and B.S. in Electrical Engineering, 1981), graduate studies at Purdue University (MBA/MSIA, 1982) and at Harvard University, USA (Ph.D./D.B.A., 1986). He has taught at Columbia University (Visiting Professor of Finance, 1996-97), at the University of Massachusetts (Assistant Professor, 1986-1990), at the International University of Japan (Visiting Assistant Professor, Spring 1990) and at Boston University (Assistant Professor of Finance, 1990-1993), and has worked as researcher at Harvard University (Research Assistant, 1983-1984). His research interests include Corporate Finance, Capital Structure, Options and Futures, Capital Budgeting, Competition and Strategy.

He serves on the Editorial Boards (Associate Editor) of the journals Multinational Finance Journal and Ekonomia.