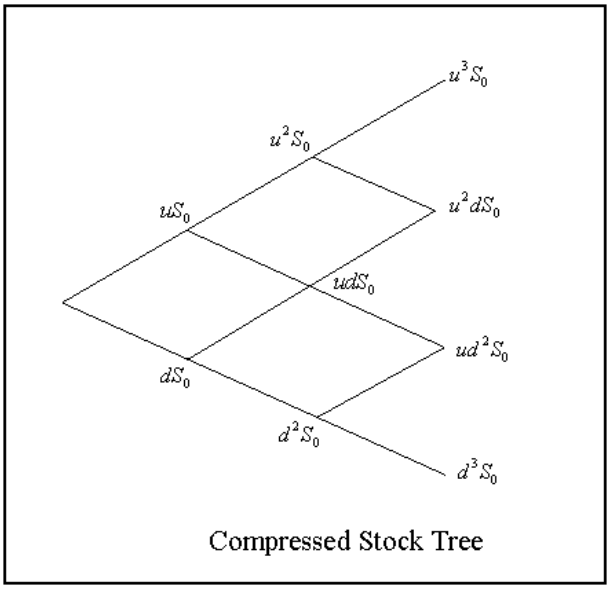
Risky Buisness: Pricing Financial Derivatives

Dr Stephen Kane
Department of Mathematics, University of Hertfordshire, U.K.
s.j.kane@herts.ac.uk

Nearly everyone has heard of the London, New York and Toyko stock exchanges. There are many other financial markets, each of which has a character determined by the type of financial instrument being traded. The traded item may be a basic equity, such as a stock, a bond, or a unit of currency or its value may be indirectly *derived* from the value of some other traded equity. In the latter case the future price is tied to the price of another equity on a future date. This traded item is termed a *financial derivative*. The application of mathematics becomes useful when we try to relate the price of the financial derivative to the price of the underlying equity. One such mathematical approach is to apply a binomial (tree) model to price the value of the derivative. This is an example of a discrete time finance model as opposed to the Black-Scholes formula which is derived from a continuous time finance model.



Compressed Stock Tree

This presentation will illustrate and discuss different types of financial derivatives that exist, such as options and futures. The pricing of such derivatives will also be discussed using real financial data.